



National Ag in the Classroom Lesson Matrix

TEKS Alignment: 6th Grade – 8th Grade

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A CHILLING INVESTIGATION

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field



- investigations as outlined in Texas Education Agency-approved safety standards
- 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.126.b.1.H: distinguish between scientific hypothesis, theories, and laws
- 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models,



- microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.1.H: distinguish between scientific hypothesis, theories, and laws
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;



- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.1.H: distinguish between scientific hypothesis, theories, and laws
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.c: describe scientific methods of research.
 - 130.2.c.13: The student describes the principles of food products and processing systems. The student is expected to:



- 130.2.c.13.a: evaluate food products and processing systems;
- 130.2.c.13.c: discuss current issues in food production; and
- 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

Technology Applications

- 6th Grade:
 - 126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;

A COMMON THREAD: THE SIGNIFICANCE OF WOOL IN MEDIEVAL ENGLAND

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.B: generate questions about text before, during, and after reading to deepen understanding and gain information;
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 10.22.b.5.H: synthesize information to create new understanding;



- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.F: synthesize information from a variety of sources;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.B: generate questions about text before, during, and after reading to deepen understanding and gain information;
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.F: synthesize information from a variety of sources;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.B: generate questions about text before, during, and after reading to deepen understanding and gain information;
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.5.H: synthesize information to create new understanding;



- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.F: synthesize information from a variety of sources;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.B: investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures
- 7th Grade:
 - 112.27.b.6: Matter and Energy: The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:
 - 112.27.b.6.D: describe aqueous solutions in terms of solute and solvent, concentration, and dilution
- 8th Grade:
 - 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.A: explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures

Social Studies:

- 6th Grade
 - 113.18.c.1: History. The student understands that historical events influence contemporary events. The student is expected to:
 - 113.18.c.1.A: trace characteristics of various contemporary societies in regions that resulted from



historical events or factors such as colonization, immigration, and trade;

- 113.18.c.2: History. The student understands the influences of individuals and groups from various cultures on various historical and contemporary societies. The student is expected to:
 - 113.18.c.2.B: describe the social, political, economic, and cultural contributions of individuals and groups from various societies, past and present.
- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;



- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.14: Economics. The student understands the origins and development of the free enterprise system in the United States. The student is expected to:
 - 113.20.c.14.A: explain why a free enterprise system of economics developed in the new nation, including minimal government regulation, taxation, and property rights;
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical



- thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

A SEARCH FOR THE SOURCE

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;



- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and Engineering Practices: The student asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.5: Recurring Themes and Concepts: The student uses recurring themes and concepts to make connections across disciplines. The student is expected to:
 - 112.11.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.11.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 7th Grade:
 - 112.27.b.1: Scientific and Engineering Practices: The student asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.14.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions



- 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 8th Grade:
 - 112.28.b.1: Scientific and Engineering Practices: The student asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.5: Recurring Themes and Concepts: The student uses recurring themes and concepts to make connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems

Social Studies

- 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



established research methodologies from a variety of valid sources, including technology. The student is expected to:

- 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.



Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
 - 130.2.c.13: The student describes the principles of food products and processing systems. The student is expected to:
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;

A RECIPE FOR GENETICS: SELECTIVE BREEDING AND TRANSGENICS



English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.

Math – No Math TEKS

Science

- 7th Grade:
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.D: evaluate experimental and engineering designs
 - 112.27.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.13: Organisms and environments. The student knows how systems are organized and function to support the health of



an organism and how traits are inherited. The student is expected to:

- 112.27.b.13.D: describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations

Social Studies

○ 6th Grade:

- 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:
 - 113.18.c.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

○ 7th Grade:

- 113.19.c.19: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on the political, economic, and social development of Texas. The student is expected to:
 - 113.19.c.19.A: compare types and uses of technology, past and present;
- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States. The student is expected to:
 - 113.20.c.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;



- 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment, and animal welfare issues.
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.c: describe plant reproduction, genetics, and breeding;
- 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:
 - 130.2.c.12.d: explain animal selection, reproduction, breeding, and genetics.



- 130.2.c.13: The student describes the principles of food products and processing systems. The student is expected to:
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production;

Technology Applications

- 6th Grade:
 - 126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;

AEROPONIC ENGINEERING AND VERTICAL FARMING

English Language Arts

- 6th Grade:
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.B: develop and revise a plan;
- 7th Grade:
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.B: develop and revise a plan;
- 8th Grade:
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.B: develop and revise a plan;

Math

- 6th Grade:



- 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.B: use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.B: use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.B: use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems



- 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.2.D: evaluate experimental and engineering designs
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.26.b.3.C: engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
 - 112.26.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.26.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
 - 112.26.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as



- availability of light and water, range of temperatures, or soil composition
- 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.B: identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.27.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations



to develop evidence-based arguments or evaluate designs. The student is expected to:

- 112.27.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
- 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.27.b.2.D: evaluate experimental and engineering designs
- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.3.C: engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions



- 112.27.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
- 112.27.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
- 112.27.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
- 112.27.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
- 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.28.b.2.D: evaluate experimental and engineering designs
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.28.b.3.C: engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
 - 112.28.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.28.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
 - 112.28.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.E: investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis
 - 112.28.b.10: Earth and space. The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:
 - 112.28.b.10.A: describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate
 - 112.28.b.10.B: identify global patterns of atmospheric movement and how they influence local weather
 - 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:



- 112.28.b.11.B: use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list



and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of



problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:

- 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
- 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
- 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and



- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
 - 130.2.c.11.e: use tools, equipment, and personal protective equipment common to plant systems.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and



- 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

AGRITOURISM: EXTREME FARM MAKEOVER

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;



- 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science – No Science TEKS

Social Studies

- 6th Grade:



- 113.18.c.8: Economics. The student understands categories of economic activities and the data used to measure a society's economic level. The student is expected to:
 - 113.18.c.8.A: define and give examples of agricultural, retail, manufacturing (goods), and service industries;
- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.21.D: create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies based on research;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.



- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:



- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b. demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.b: use a variety of resources for research and development; and
- 130.2.c.8: The student applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records. The student is expected to:
 - 130.2.c.8.a: develop a formal business plan; and
- 130.2.c.9: The student uses information technology tools to access, manage, integrate, and create information related to agriculture, food, and natural resources. The student is expected to:
 - 130.2.c.9.a: apply technology applications such as industry-relevant software and Internet applications;

APPLE GENETICS: A TASTY PHENOMENA

English Language Arts

○ 6th Grade:

- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds



to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:

- 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:



- 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 112.27.b.13: Organisms and Environments: The student knows how systems are organized and function to support the health of an organism and how traits are inherited. The student is expected to:
 - 112.27.b.13.C: compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time
 - 112.27.b.13.D: describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.B: 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.28.b.3.C: engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence



- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.13: Organisms and Environments: The student knows how cell functions support the health of an organism and how adaptation and variation relate to survival. The student is expected to:
 - 112.28.b.13.B: describe the function of genes within chromosomes in determining inherited traits of offspring
 - 112.28.b.13.C: describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:



- 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
- 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.c: describe plant reproduction, genetics, and breeding;
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and

APPLYING HEREDITY CONCEPTS

English Language Arts

- 6th Grade:



- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.2: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to:
 - 110.22.b.2.B: use context such as definition, analogy, and examples to clarify the meaning of words; and
- 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding; and
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.2: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to:
 - 110.23.b.2.B: use context such as contrast or cause and effect to clarify the meaning of words; and
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and



- comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding; and
 - 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.
 - 110.24.b.2: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to:
 - 110.24.b.2.B: use context within or beyond a paragraph to clarify the meaning of unfamiliar or ambiguous words; and
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding; and

Math – No Math TEKS

Science

- 7th Grade:
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.27.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
- 112.27.b.13: Organisms and environments. The student knows how systems are organized and function to support the health of an organism and how traits are inherited. The student is expected to:
 - 112.27.b.13.D: describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations

Social Studies

- 6th Grade:
 - 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:
 - 113.18.c.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.19: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on the political, economic, and social development of Texas. The student is expected to:
 - 113.19.c.19.A: compare types and uses of technology, past and present;
 - 113.19.c.19.C: analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:



- 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States. The student is expected to:
 - 113.20.c.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;



- 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.c: describe plant reproduction, genetics, and breeding;
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and

AT HOME ON THE RANGE

English Language Arts

- 6th Grade:
 - 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds



to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:

- 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking-- fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking-- fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds



to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:

- 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently;
 - 111.26.b.3.E: multiply and divide positive rational numbers fluently.
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.1.B: use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
 - 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently;



- 111.27.b.3.B: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.B: use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data



- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
- 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.C: describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 112.27.b.13: Organisms and Environments: The student knows how systems are organized and function to support the health of an organism and how traits are inherited. The student is expected to:
 - 112.27.b.13.B: describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies



problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
- 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
- 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
- 112.28.b.11.A: use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate
 - 112.28.b.11.B: use scientific evidence to describe how human activities, including the release of greenhouse



- gases, deforestation, and urbanization, can influence climate
- 112.28.b.11.C: describe the carbon cycle
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;



- 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
 - 130.2.c.11.e: use tools, equipment, and personal protective equipment common to plant systems.
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:



- 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;
- 130.2.c.15.b: identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;
- 130.2.c.15.c: identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;

BLUE'S THE CLUE: SOURING MILK FOR SCIENCE

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.



Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.2.D: evaluate experimental and engineering designs
 - 112.26.b.4: Scientific and Engineering Practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
 - 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:



- 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.27.b.2.D: evaluate experimental and engineering designs
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models,



- microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.28.b.2.D: evaluate experimental and engineering designs
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems

Social Studies

○ 6th Grade:

- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;



Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.c: describe scientific methods of research.
 - 130.2.c.13: The student describes the principles of food products and processing systems. The student is expected to:
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.c: discuss current issues in food production; and
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

BRING HOME THE BLUE, NOT THE FLU!

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses



- metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;
- Math
 - 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:



- 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
- 111.26.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
- 111.26.b.12: Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to:
 - 111.26.b.12.A: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots;
 - 111.26.b.12.B: use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
 - 111.27.b.1.6: Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.6.G: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;



Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.B: describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism;
 - 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:



- 112.26.b.13.A: describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function
- 112.26.b.13.B: identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic
- 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
 - 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data



- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.C: describe the carbon cycle

Social Studies

- 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:



- 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.c: describe scientific methods of research.

CAN WE HAVE TOO MUCH OF A GOOD THING?

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.10: Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to:
 - 110.22.b.10.B: develop drafts into a focused, structured, and coherent piece of writing by:



- 110.22.b.10.B.i: organizing with purposeful structure, including an introduction, transitions, coherence within and across paragraphs, and a conclusion;
- 110.22.b.10.C: revise drafts for clarity, development, organization, style, word choice, and sentence variety;
- 110.22.b.10.D: edit drafts using standard English conventions, including:
 - 110.22.b.10.D.i: complete complex sentences with subject-verb agreement and avoidance of splices, run-ons, and fragments;
 - 110.22.b.10.D.ii: consistent, appropriate use of verb tenses;
 - 110.22.b.10.D.iii: conjunctive adverbs;
 - 110.22.b.10.D.iv: prepositions and prepositional phrases and their influence on subject-verb agreement;
 - 110.22.b.10.D.v: pronouns, including relative;
 - 110.22.b.10.D.vi: subordinating conjunctions to form complex sentences and correlative conjunctions such as either/or and neither/nor;
 - 110.22.b.10.D.vii: capitalization of proper nouns, including abbreviations, initials, acronyms, and organizations;
 - 110.22.b.10.D.viii: punctuation marks, including commas in complex sentences, transitions, and introductory elements; and
 - 110.22.b.10.D.ix: correct spelling, including commonly confused terms such as its/it's, affect/effect, there/their/they're, and to/two/too;
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.22.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;



- 110.22.b.12.F: synthesize information from a variety of sources;
- 110.22.b.12.G: differentiate between paraphrasing and plagiarism when using source materials;
- 110.22.b.12.I: display academic citations and use source materials ethically;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.22.b.10: Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to:
 - 110.23.b.10.B: develop drafts into a focused, structured, and coherent piece of writing by:
 - 110.23.b.10.B.i: organizing with purposeful structure, including an introduction, transitions, coherence within and across paragraphs, and a conclusion;
 - 110.23.b.10.C: revise drafts for clarity, development, organization, style, word choice, and sentence variety;
 - 110.23.b.10.D: edit drafts using standard English conventions, including:
 - 110.23.b.10.D.i: complete complex sentences with subject-verb agreement and avoidance of splices, run-ons, and fragments;
 - 110.23.b.10.D.ii: consistent, appropriate use of verb tenses;
 - 110.23.b.10.D.iii: conjunctive adverbs;
 - 110.23.b.10.D.iv: prepositions and prepositional phrases and their influence on subject-verb agreement;
 - 110.23.b.10.D.v: pronoun-antecedent agreement;
 - 110.23.b.10.D.vi: subordinating conjunctions to form complex sentences and correlative conjunctions such as either/or and neither/nor;



- 110.23.b.10.D.vii: correct capitalization;
- 110.23.b.10.D.viii: punctuation, including commas to set off words, phrases, and clauses, and semicolons; and
- 110.23.b.10.D.ix: correct spelling, including commonly confused terms such as its/it's, affect/effect, there/their/they're, and to/two/too;
- 110.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.23.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.G: differentiate between paraphrasing and plagiarism when using source materials;
 - 110.23.b.12.I: display academic citations and use source materials ethically;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.10: Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to:



- 110.24.b.10.B: develop drafts into a focused, structured, and coherent piece of writing by:
 - 110.24.b.10.B.i: organizing with purposeful structure, including an introduction, transitions, coherence within and across paragraphs, and a conclusion;
- 110.24.b.10.C: revise drafts for clarity, development, organization, style, word choice, and sentence variety;
- 110.24.b.10.D: edit drafts using standard English conventions, including:
 - 110.24.b.10.D.i: complete complex sentences with subject-verb agreement and avoidance of splices, run-ons, and fragments;
 - 110.24.b.10.D.ii: consistent, appropriate use of verb tenses and active and passive voice;
 - 110.24.b.10.D.iii: prepositions and prepositional phrases and their influence on subject-verb agreement;
 - 110.24.b.10.D.iv: pronoun-antecedent agreement;
 - 110.24.b.10.D.v: correct capitalization;
 - 110.24.b.10.D.vi: punctuation, including commas in nonrestrictive phrases and clauses, semicolons, colons, and parentheses; and
 - 110.24.b.10.D.vii: correct spelling, including commonly confused terms such as its/it's, affect/effect, there/their/they're, and to/two/too;
- 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.G: differentiate between paraphrasing and plagiarism when using source materials;



- 110.24.b.12.I: display academic citations and use source materials ethically;

Math – No Math TEKS
Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.27.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.28.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;



- 130.2.c.7.b: use a variety of resources for research and development; and
- 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.e: use tools, equipment, and personal protective equipment common to plant systems.

CAREER GAMING

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages



- in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
- 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
- 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

- 6th Grade:
- 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats



- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the



- process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private



- companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.13: Organisms and Environments: The student knows how cell functions support the health of an organism and how adaptation and variation relate to survival. The student is expected to:
 - 112.28.b.13.A: identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells
 - 112.28.b.13.B: describe the function of genes within chromosomes in determining inherited traits of offspring
 - 112.28.b.13.C: describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations

Social Studies

○ 6th Grade

- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

○ 7th Grade:

- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern



recognition, abstraction, and algorithms. The student is expected to:

- 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

CHAIN OF FOOD

English Language Arts

- 6th Grade:



- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:



- 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:

Math – No Math TEKS

Science – No Science TEKS

Social Studies

- 6th Grade:
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list



and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:



- 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
- 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
- 130.2.c.1.d: analyze employers' expectations such as appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills; and
- 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.13: The student describes the principles of food products and processing



- 130.2.c.13.a: evaluate food products and processing systems;
- 130.2.c.13.b: determine trends in world food production;
- 130.2.c.13.c: discuss current issues in food production; and

CHARTING AGRICULTURAL CAREERS

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;



- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;

Science

- 6th Grade:
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers



- 7th Grade:
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.11: Economics. The student understands the factors that caused Texas to change from an agrarian to an urban society. The student is expected to:
 - 113.19.11.B: explain the changes in the types of jobs and occupations that have resulted from the urbanization of Texas.



- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Career and College Exploration



- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

CHEESEMAKING: A SCIENCE, AN ART, AND A CRAFT

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:



- 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to



- answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
- 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.A: compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules
 - 112.26.b.6.B: investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures
 - 112.26.b.6.E: identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change
- 7th Grade:
- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.6: Matter and Energy: The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:
 - 112.27.b.6.C: distinguish between physical and chemical changes in matter
 - 112.27.b.6.E: investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems



- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.A: explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures
 - 112.28.b.6.E: investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis

Social Studies

- 7th Grade:

- 113.19.c.11: Economics. The student understands the factors that caused Texas to change from an agrarian to an urban society. The student is expected to:
 - 113.19.11.B: explain the changes in the types of jobs and occupations that have resulted from the urbanization of Texas.
- 113.19.c.12: Economics. The student understands the interdependence of the Texas economy with the United States and the world. The student is expected to:
 - 113.19.12.A: explain the impact of national and international markets on the production of goods and services in Texas, including agriculture and oil and gas;

Career and College Exploration



- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.1.d: analyze employers' expectations such as appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills; and
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;



- 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

CLOTHES ON THE GROW

English Language Arts

- 6th Grade:
 - 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.22.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
- 7th Grade:
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--



- fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.23.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
 - 8th Grade:
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:



- 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.4: Scientific and Engineering Practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the



importance of scientific research and innovation on society. The student is expected to:

- 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

○ 8th Grade:

- 112.18.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.18.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.18.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.18.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.18.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.18.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.18.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.19.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers



Social Studies

- 6th Grade:
 - 113.18.c.20: Social studies skills. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to:
 - 113.18.b.20.A: answer geographic questions, including: Where is it located? Why is it there? What is significant about its location? How is its location related to the location of other people, places, and environments? Using latitude and longitude, where is it located?;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and



- 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
- 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:
 - 130.2.c.12.c: identify and evaluate breeds and classes of livestock; and

COOKING RIGHT: THE SCIENCE OF COOKING A HAMBURGER

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:



- 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
- 8th Grade:



- 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:



- 112.26.b.12.B: describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism;
- 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.A: describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function
 - 112.26.b.13.B: identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:



- 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
 - 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.C: describe the carbon cycle
- 112.28.b.13: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.13.B: describe the function of genes within chromosomes in determining inherited traits of offspring
 - 112.28.b.13.C: describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations

Social Studies – No Social Studies

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;



- 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
- 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics,
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society; language arts, and social studies.
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.



English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:



- 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS
Science

- 6th Grade:
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the



- credibility, accuracy, cost-effectiveness, and methods used;
- 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 7th Grade:
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

○ 6th Grade

- 113.18.c.8: Economics. The student understands categories of economic activities and the data used to measure a society's economic level. The student is expected to:
 - 113.18.c.8.A: define and give examples of agricultural, retail, manufacturing (goods), and service industries;
- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

○ 7th Grade:

- 113.19.c.5: History. The student understands how events and issues shaped the history of Texas during the Civil War and Reconstruction. The student is expected to:
 - 113.19.c.5.A: explain the central role the expansion of slavery played in the involvement of Texas in the Civil War;
- 113.19.c.12: Economics. The student understands the interdependence of the Texas economy with the United States and the world. The student is expected to:
 - 113.19.c.12.A: explain the impact of national and international markets on the production of goods and services in Texas, including agriculture and oil and gas;
- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



- established research methodologies from a variety of valid sources, including technology. The student is expected to:
- 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.7: History. The student understands how political, economic, and social factors led to the growth of sectionalism and the Civil War. The student is expected to:
 - 113.20.c.7.D: analyze the impact of slavery on different sections of the United States;
 - 113.20.c.8: History. The student understands individuals, issues, and events of the Civil War. The student is expected to:
 - 113.20.c.8.B: explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War;
 - 113.20.c.12: Economics. The student understands why various sections of the United States developed different patterns of economic activity through 1877. The student is expected to:
 - 113.20.c.12.B: explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery;
 - 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States. The student is expected to:
 - 113.20.c.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;
 - 13.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



established research methodologies from a variety of valid sources, including technology. The student is expected to:

- 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and

CROP CASE FILES: DICHOTOMOUS KEYS

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.



- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.4: Scientific and Engineering Practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:



- 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.12: Organisms and environments. The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.112.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 112.26.b.13: Organisms and environments. The student knows that organisms have an organizational structure and variations can influence the survival of populations. The student is expected to:
 - 112.26.b.112.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change

Social Studies – No Social Studies TEKS

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;



- 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;

CROSSED UP!

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and



- 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.c: discuss current issues in food production; and
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

CRUISIN' FOR A BRUISIN' FOOD PACKAGING SPECIALIST

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.B: develop and revise a plan;



- 110.22.b.12.D: identify and gather relevant information from a variety of sources;
- 110.22.b.12.F: synthesize information from a variety of sources;
- 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.B: develop and revise a plan;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.B: develop and revise a plan;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;



- 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently; and
 - 111.26.b.3.E: multiply and divide positive rational numbers fluently.
 - 111.26.b.4: Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to:
 - 111.26.b.4.H: convert units within a measurement system, including the use of proportions and unit rates.
 - 111.26.b.8: Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to:
 - 111.26.b.8.D: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers.
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math,



- estimation, and number sense as appropriate, to solve problems;
- 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently; and
 - 111.27.b.3.B: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
 - 111.27.b.4: Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.4.E: convert between measurement systems, including the use of proportions and the use of unit rates.
 - 111.27.b.5: Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.5.B: describe π as the ratio of the circumference of a circle to its diameter;
 - 111.27.b.9: Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to:
 - 111.27.b.9.A: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids;
 - 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.28.b.7: Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to:
 - 111.28.b.7.A: solve problems involving the volume of cylinders, cones, and spheres;



Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.A: describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function



- 112.26.b.13.B: identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic
- 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers



- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and



- contributions of diverse scientists as related to the content;
- 112.28.b.3.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.C: describe the carbon cycle

Social Studies

- 6th Grade
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list



and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

- 8th Grade:
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;



- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

DIGGING INTO NUTRIENTS

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:



- 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively;
- 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.22.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.



- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
- 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.23.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.24.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating



Math – No Math TEKS

Science – No Science TEKS

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and



- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
 - 130.2.c.10.b: identify and describe the process of soil formation; and
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;

DNA: EXPRESSIONS IN AGRICULTURE

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:



- 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
- 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.D: evaluate experimental and engineering designs
 - 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.D: evaluate experimental and engineering designs
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:



- 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.D: evaluate experimental and engineering designs



- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions

Social Studies – No Social Studies TEKS

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science,



technology, engineering, mathematics, language arts, and social studies.

- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.c: describe plant reproduction, genetics, and breeding;
- 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:



- 130.2.c.12.d: explain animal selection, reproduction, breeding, and genetics.

DRONES IN HIGH-TECH FARMING

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.22.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral



- language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
- 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.23.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses



metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:

- 110.24.b.5.G: evaluate details read to determine key ideas;
- 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.24.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 7th Grade:
 - 112.27.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 8th Grade:
 - 112.28.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems



Social Studies

- 6th Grade:
 - 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:
 - 113.18.c.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.19: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on the political, economic, and social development of Texas. The student is expected to:
 - 113.19.c.19.C: analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States. The student is expected to:



- 113.20.c.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;
- 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and



- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.9: The student uses information technology tools to access, manage, integrate, and create information related to agriculture, food, and natural resources. The student is expected to:
 - 130.2.c.9.a: apply technology applications such as industry-relevant software and Internet applications;
 - 130.2.c.9.c: analyze the benefits and limitations of emerging technology such as online mapping systems, drones, and robotics; and
 - 130.2.c.9.d: explain the benefits of computer-based and mobile application equipment in agriculture, food, and natural resources.

ENERGY AND BIOFUELS

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;



Math – No Math TEKS

Science

○ 6th Grade:

- 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.D: evaluate experimental and engineering designs
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the



credibility, accuracy, cost-effectiveness, and methods used

- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.C: identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life
 - 112.26.b.6.E: identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change
- 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
 - 112.26.b.10.B: model and describe the layers of Earth, including the inner core, outer core, mantle, and crust
 - 112.26.b.10.C: describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources



- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.D: evaluate experimental and engineering designs
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats



- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.27.b.6: Matter and Energy: The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:
 - 112.27.b.6.A: compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas
 - 112.27.b.6.C: distinguish between physical and chemical changes in matter
 - 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 8th Grade:
- 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.D: evaluate experimental and engineering designs
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used



- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.b.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of



problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:

- 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
- 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

○ 7th Grade:

- 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and



- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;
 - 130.2.c.15.b: identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.c: identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.d: research and analyze alternative energy sources that stem from or impact agriculture, food, and natural resources; and
 - 130.2.c.15.e: evaluate energy and water conservation methods.

ENERGY BAR EXPLORATION

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and



- conventions of language to communicate ideas effectively; and
- 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues

Math – No Math TEKS

Science – No Science TEKS

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.21.D: create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies based on research;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:



- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;



- 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
- 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;



- 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and

FERTILIZERS AND THE ENVIRONMENT

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;



- 110.22.b.12.D: identify and gather relevant information from a variety of sources;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;

Math – No Math TEKS
Science

- 6th Grade:



- 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
 - 112.26.b.10.B: model and describe the layers of Earth, including
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
 - 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change



- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the



- credibility, accuracy, cost-effectiveness, and methods used
- 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems



- 112.28.b.10: Earth and space. The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:
 - 112.28.b.10.A: describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.B: use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate
 - 112.28.b.11.C: describe the carbon cycle
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.b.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and



disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

- 8th Grade:
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;



- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
 - 130.2.c.10.b: identify and describe the process of soil formation; and
 - 130.2.c.10.c: conduct experiments related to soil chemistry.

FIND YOUR FUTURE CAREER

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses



metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:

- 110.24.b.5.H: synthesize information to create new understanding;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies



problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



established research methodologies from a variety of valid sources, including technology. The student is expected to:

- 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:



- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

FLOWER POWER

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.



- 110.22.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.22.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.23.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.



- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
- 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.23.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:



- 110.24.b.5.G: evaluate details read to determine key ideas;
- 110.24.b.5.H: synthesize information to create new understanding;
- 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.24.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
 - 112.26.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
 - 112.26.b.12: Organisms and environments. The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.B: describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:



- 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.27.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
 - 112.27.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.c: describe plant reproduction, genetics, and breeding;

FOODMASTER MIDDLE: CHEESE

English Language Arts

- 6th Grade:



- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
- 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:



- 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 8th Grade:
- 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;

Math

- 6th Grade:



- 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently; and
 - 111.26.b.3.E: multiply and divide positive rational numbers fluently.
- 111.26.b.4: Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to:
 - 111.26.b.4.H: convert units within a measurement system, including the use of proportions and unit rates.
- 7th Grade:
 - 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently; and
 - 111.27.b.3.B: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
 - 111.27.b.4: Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.4.E: convert between measurement systems, including the use of proportions and the use of unit rates.

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations



- and use engineering practices to design solutions to problems
- 112.26.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems



- 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.27.b.6: Matter and energy. The student knows that matter has physical and chemical properties and can undergo physical and chemical changes. The student is expected to
 - 112.19.b.6.C: distinguish between physical and chemical changes in matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations



- and use engineering practices to design solutions to problems
- 112.28.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;



- 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

FOODMASTER MIDDLE: FRUITS

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and



- comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 7th Grade:
- 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:



- 110.23.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.26.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations



- and use engineering practices to design solutions to problems
- 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.27.b.6: Matter and energy. The student knows that matter has physical and chemical properties and can undergo physical and chemical changes. The student is expected to
 - 112.27.b.6.C: distinguish between physical and chemical changes in matter
 - 112.27.b.6.D: compare and contrast the properties of acids and bases, including pH relative to water
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:



- 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.28.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;
- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data

Social Studies – No Social Studies TEKS

Technology Applications

○ 6th Grade:

- 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions,



and an expected timeline for the development of a coded solution;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
 - 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and



FOODMASTER MIDDLE: WEIGHTS AND MEASURES

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.26.b.4: Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to:
 - 111.26.b.4.H: convert units within a measurement system, including the use of proportions and unit rates.
- 7th Grade:



- 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
- 111.27.b.4: Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.4.E: convert between measurement systems, including the use of proportions and the use of unit rates.
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors,



- tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
- 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware,



- timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware,



timing devices, pH indicators, hot plates, models, microscopes, slides life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, weather maps, hand lenses, and lab notebooks or journals

- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data

Social Studies

- 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;



- 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

FOOD SCIENTIST FOR A DAY

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.



- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:



- 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
- 110.24.b.12.D: identify and gather relevant information from a variety of sources;
- 110.24.b.12.F: synthesize information from a variety of sources;
- 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS
Science

- 6th Grade:
 - 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 7th Grade:
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade:



- 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:
 - 113.22.b.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
- 7th Grade:
 - 113.19.c.19: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on the political, economic, and social development of Texas. The student is expected to:
 - 113.19.c.19.C: analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries;
- 8th Grade:
 - 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States. The student is expected to:
 - 113.20.c.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;



- 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;

FOOD SYSTEMS FEED THE WORLD

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:



- 110.22.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.23.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft

Math – No Math Skills

Science

- 6th Grade:
 - 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:



- 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.11: Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution

Social Studies

○ 6th Grade:

- 113.18.c.3: Geography. The student understands the factors that influence the locations and characteristics of locations of various contemporary societies on maps and/or globes. The student is expected to:
 - 113.18.c.3.D: identify the location of major world countries for each of the world regions.
- 113.18.c.5: Geography. The student understands the impact of interactions between people and the physical environment on the development and conditions of places and regions. The student is expected to:
 - 113.18.c.5.A: describe ways people have been impacted by physical processes such as earthquakes and climate;
- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
- 113.18.c.20: Social studies skills. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to:
 - 113.18.c.20.C: compare various world regions and countries using data from maps, graphs, and charts;
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;

○ 7th Grade:



- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20cb.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,



- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

FROM FORAGING TO FARMING

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.22.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.10: Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to:



- 110.22.b.10.D: edit drafts using standard English conventions, including:
 - 110.22.b.10.D.i: complete complex sentences with subject-verb agreement and avoidance of splices, run-ons, and fragments;
 - 110.22.b.10.D.ii: consistent, appropriate use of verb tenses;
 - 110.22.b.10.D.iii: conjunctive adverbs;
 - 110.22.b.10.D.iv: prepositions and prepositional phrases and their influence on subject-verb agreement;
 - 110.22.b.10.D.v: pronouns, including relative;
 - 110.22.b.10.D.vi: subordinating conjunctions to form complex sentences and correlative conjunctions such as either/or and neither/nor;
 - 110.22.b.10.D.vii: capitalization of proper nouns, including abbreviations, initials, acronyms, and organizations;
 - 110.22.b.10.D.viii: punctuation marks, including commas in complex sentences, transitions, and introductory elements; and
 - 110.22.b.10.D.ix: correct spelling, including commonly confused terms such as its/it's, affect/effect, there/their/they're, and to/two/too;
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.22.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.



- 110.23.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
- 110.22.b.10: Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to:
 - 110.23.b.10.D: edit drafts using standard English conventions, including:
 - 110.23.b.10.D.i: complete complex sentences with subject-verb agreement and avoidance of splices, run-ons, and fragments;
 - 110.23.b.10.D.ii: consistent, appropriate use of verb tenses;
 - 110.23.b.10.D.iii: conjunctive adverbs;
 - 110.23.b.10.D.iv: prepositions and prepositional phrases and their influence on subject-verb agreement;
 - 110.23.b.10.D.v: pronoun-antecedent agreement;
 - 110.23.b.10.D.vi: subordinating conjunctions to form complex sentences and correlative conjunctions such as either/or and neither/nor;
 - 110.23.b.10.D.vii: correct capitalization;
 - 110.23.b.10.D.viii: punctuation, including commas to set off words, phrases, and clauses, and semicolons; and
 - 110.23.b.10.D.ix: correct spelling, including commonly confused terms such as its/it's, affect/effect, there/their/they're, and to/two/too;
- 110.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:



- 110.23.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.24.b.4: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.10: Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to:
 - 110.24.b.10.D: edit drafts using standard English conventions, including:
 - 110.24.b.10.D.i: complete complex sentences with subject-verb agreement and avoidance of splices, run-ons, and fragments;
 - 110.24.b.10.D.ii: consistent, appropriate use of verb tenses and active and passive voice;



- 110.24.b.10.D.iii: prepositions and prepositional phrases and their influence on subject-verb agreement;
- 110.24.b.10.D.iv: pronoun-antecedent agreement;
- 110.24.b.10.D.v: correct capitalization;
- 110.24.b.10.D.vi: punctuation, including commas in nonrestrictive phrases and clauses, semicolons, colons, and parentheses; and
- 110.24.b.10.D.vii: correct spelling, including commonly confused terms such as its/it's, affect/effect, there/their/they're, and to/two/too;
- 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;

Math – No Math Skills

Science

- 6th Grade:
 - 112.26.b.11: Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.12: Organisms and environments. The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 8th Grade:
 - 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.12.A: use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the



release and absorption of greenhouse gases influence climate

- 112.28.b.12.B: use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate

Social Studies

○ 6th Grade:

- 113.18.c.20: Social studies skills. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to:
 - 113.18.c.20.A: answer geographic questions, including: Where is it located? Why is it there? What is significant about its location? How is its location related to the location of other people, places, and environments? Using latitude and longitude, where is it located?;
 - 113.18.c.20.B: pose and answer questions about geographic distributions and patterns for various world regions and countries shown on maps, graphs, and charts;
 - 113.18.c.20.C: compare various world regions and countries using data from maps, graphs, and charts;

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;



- 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

FUNGI MULTIPLICATION

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.B: develop and revise a plan;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;



- 110.22.b.12.F: synthesize information from a variety of sources;
- 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.B: develop and revise a plan;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.B: develop and revise a plan;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;



- 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.2.D: evaluate experimental and engineering designs
 - 112.26.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.27.b.2.D: evaluate experimental and engineering designs
- 112.27.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.28.b.2.D: evaluate experimental and engineering designs
 - 112.28.b.5: Recurring themes and concepts. The student understands that recurring themes and concepts provide a



framework for making connections across disciplines. The student is expected to:

- 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.c: describe plant reproduction, genetics, and breeding;

GEOGRAPHY AND CLIMATE FOR AGRICULTURAL LANDSCAPES

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively;



- 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:



- 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
- 110.24.b.12.D: identify and gather relevant information from a variety of sources;
- 110.24.b.12.F: synthesize information from a variety of sources

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.11: Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
- 7th Grade:
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.12.A: use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate
 - 112.28.b.12.B: use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate

Social Studies

- 6th Grade:
 - 113.18.c.4: Geography. The student understands how geographic factors influence the economic development and political relationships of societies. The student is expected to:
 - 113.18.c.4.A: explain the geographic factors responsible for the location of economic activities in places and regions;
 - 113.18.c.20: Social studies skills. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to:
 - 113.18.c.20.A: answer geographic questions, including: Where is it located? Why is it there? What is significant about its location? How is its location related to the location of other people, places, and environments? Using latitude and longitude, where is it located?;
 - 113.18.c.20.C: compare various world regions and countries using data from maps, graphs, and charts; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.b.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.8: Geography. The student understands the location and characteristics of places and regions of Texas. The student is expected to:
 - 113.19.c.8.C: analyze the effects of physical and human factors such as climate, weather, landforms, irrigation,



- transportation, and communication on major events in Texas.
- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 8th Grade:
 - 113.20.c.11: Geography. The student understands the physical characteristics of North America and how humans adapted to and modified the environment through the mid-19th century. The student is expected to:
 - 113.20.c.11.A: analyze how physical characteristics of the environment influenced population distribution, settlement patterns, and economic activities in the United States;
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;



Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;

GOOD GUYS OR BAD GUYS?

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group



- members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.22.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
 - 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.23.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
 - 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:



- 110.24.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;

Math – No Math TEKS
Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.14: Organisms and environments. The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.37.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems



such as bacteria aiding digestion or fungi decomposing organic matter

- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.D: create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies based on research;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;



- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
 - 130.2.c.10.c: conduct experiments related to soil chemistry.

HANDS OFF, BACTERIA!

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses



metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:

- 110.23.b.5.H: synthesize information to create new understanding;
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
 - 111.26.b.12: Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to:



- 111.26.b.12.A: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
 - 111.27.b.1.6: Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.6.G: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;

Science

- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.27.b.1.H: distinguish between scientific hypotheses, theories, and law
- 112.27.b.2: Scientific and Engineering Practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.D: evaluate experimental and engineering designs
- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories



- 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.27.b.3.C: engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
 - 112.27.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
- 112.27.b.14: Organisms and environments. The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems



such as bacteria aiding digestion or fungi decomposing organic matter

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.



- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.1.d: analyze employers' expectations such as appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills; and
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.



- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.

HIGH-TECH FARMING

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:



- 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



- phenomena, or design solutions using appropriate tools and models. The student is expected to:
- 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contribution of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.27.b.14: Organisms and environments. The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.28.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade:
 - 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:
 - 113.18.c.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



- established research methodologies from a variety of valid sources, including technology. The student is expected to:
- 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
- 113.19.c.19: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on the political, economic, and social development of Texas. The student is expected to:
 - 113.19.c.19.A: compare types and uses of technology, past and present;
 - 113.19.c.19.C: analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries;
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
- 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the



economic development of the United States. The student is expected to:

- 113.20.c.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;
- 113.20.c.28: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on daily life in the United States. The student is expected to:
 - 113.20.c.28.B: identify examples of how industrialization changed life in the United States.
- 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:

- 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;



- 6.126.17.c.12: Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:
 - 6.126.17.c.12.C: select and use the appropriate platform and tools to complete a specific task or project;
 - 6.126.17.c.12.H: use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts such as reports, graphs, and charts.
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;
 - 7.126.18.c.12: Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:
 - 7.126.18.c.12.C: select and use appropriate platform and tools, including selecting and using software or hardware for a defined task;
 - 7.126.18.c.12.H: select and use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts such as reports, graphs, and charts with increasing complexity.
- 8th Grade:
 - 8.126.19.c.12: Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:
 - 8.126.19.c.12.C: select and use appropriate platform and tools, including selecting and using software or hardware to transfer data;
 - 8.126.19.c.12.H: select and use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts, including reports, graphs, and charts, with increasing complexity.



Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and

HORSE AND RIDER: THE PONY EXPRESS

English Language Arts

- 6th Grade:
 - 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.22.b.11.C: compose multi-paragraph argumentative texts using genre characteristics and craft;
- 7th Grade:
 - 110.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.23.b.11.C: compose multi-paragraph argumentative texts using genre characteristics and craft;
- 8th Grade:
 - 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.C: compose multi-paragraph argumentative texts using genre characteristics and craft;

Math – No Math TEKS

Science - No Science TEKS

Social Studies

- 6th Grade



- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:



- 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:



- 130.2.c.4.a: define the scope of agriculture;
- 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:
 - 130.2.c.12.c: identify and evaluate breeds and classes of livestock; and
 - 130.2.c.12.d: explain animal selection, reproduction, breeding, and genetics.

HUNGER AND MALNUTRITION

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:



- 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.

Math – No Math TEKS

Science – No Science TEKS

Social Studies

- 6th Grade:
 - 113.18.c.2: History. The student understands the influences of individuals and groups from various cultures on various historical and contemporary societies. The student is expected to:
 - 113.18.c.2.A: identify and describe the historical influence of individuals or groups on various contemporary societies;
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:



- 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and



- 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

HUNGRY PESTS

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.C: use text evidence to support an appropriate response;
 - 110.22.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.22.b.9: Author's purpose and craft: listening, speaking, reading, writing, and thinking using multiple texts. The student



uses critical inquiry to analyze the authors' choices and how they influence and communicate meaning within a variety of texts. The student analyzes and applies author's craft purposefully in order to develop his or her own products and performances. The student is expected to:

- 110.22.b.9.A: explain the author's purpose and message within a text;
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.22.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.C: use text evidence to support an appropriate response;
 - 110.23.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.23.b.9: Author's purpose and craft: listening, speaking, reading, writing, and thinking using multiple texts. The student uses critical inquiry to analyze the authors' choices and how they influence and communicate meaning within a variety of texts. The student analyzes and applies author's craft purposefully in order to develop his or her own products and performances. The student is expected to:
 - 110.23.b.9.A: explain the author's purpose and message within a text;
 - 110.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:



- 110.23.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.C: use text evidence to support an appropriate response;
 - 110.24.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.24.b.9: Author's purpose and craft: listening, speaking, reading, writing, and thinking using multiple texts. The student uses critical inquiry to analyze the authors' choices and how they influence and communicate meaning within a variety of texts. The student analyzes and applies author's craft purposefully in order to develop his or her own products and performances. The student is expected to:
 - 110.24.b.9.A: explain the author's purpose and message within a text;
 - 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:



- 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.26.b.1.H: distinguish between scientific hypotheses, theories, and laws
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.B: describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism;
- 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:



- 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions



- 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.A: describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a



framework for making connections across disciplines. The student is expected to:

- 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.10: Earth and space. The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:
 - 112.28.b.10.A: describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate
 - 112.28.b.10.B: identify global patterns of atmospheric movement and how they influence local weather
 - 112.28.b.10.C: describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.B: use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate
 - 112.28.b.11.C: describe the carbon cycle
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



- established research methodologies from a variety of valid sources, including technology. The student is expected to:
- 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
- 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;



- 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- Technology Applications
 - 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;



- 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;
 - 130.2.c.15.b: identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.c: identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;

INCREASING FOOD PRODUCTION WITH PRECISION AGRICULTURE

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group



members, taking notes, and identifying points of agreement and disagreement.

- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;



- 111.27.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
- 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently; and
 - 111.27.b.3.B: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify



- features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.D: evaluate experimental and engineering designs
- 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.26.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 7th Grade:
 - 112.127.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.D: evaluate experimental and engineering designs



- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.27.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.D: evaluate experimental and engineering designs
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:



- 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
- 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
- 112.28.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade:
 - 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:
 - 113.18.b.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution;
- 7th Grade:
 - 113.19.c.19: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on the political, economic, and social development of Texas. The student is expected to:
 - 113.19.c.19.A: compare types and uses of technology, past and present;
 - 113.19.c.19.C: analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries;



- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States. The student is expected to:
 - 113.20.c.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:



- 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

INHERITED TRAITS IN THE LIVING CORN NECKLACE

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses



genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:

- 110.22.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.23.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.B: compose informational texts, including multi-paragraph essays that convey information about a topic, using a clear controlling idea or thesis statement and genre characteristics and craft;

Math – No Math TEKS

Science

- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory,



- and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
- 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.12: Organisms and environments. The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
 - 112.27.b.13: Organisms and environments. The student knows how systems are organized and function to support the health of an organism and how traits are inherited. The student is expected to:
 - 112.27.b.13.D: describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations
- 8th Grade:
- 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.12: Organisms and Environments. The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human



intervention impact the transfer of energy in food webs in ecosystems

- 112.28.b.13: Organisms and Environments. The student knows how cell functions support the health of an organism and how adaptation and variation relate to survival. The student is expected to:
 - 112.28.b.13.A: identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells
 - 112.28.b.13.C: describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations

Social Studies

- 6th Grade:
 - 113.18.b.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.b.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.18.b.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.b.21.D: create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies based on research;
- 7th Grade:
 - 113.19.b.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.b.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.b.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.20.b.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
 - 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;



- 130.2.c.11.c: describe plant reproduction, genetics, and breeding;
- 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and

JOURNEY 2050 LESSON 1: SUSTAINABLE AGRICULTURE

English Language Arts –No ELA TEKS

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



- phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;



- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies

- 6th Grade:
 - 113.18.c.14: Culture. The student understands that all societies have basic institutions in common even though the characteristics of these institutions may differ. The student is expected to:
 - 113.18.c.14.C: analyze the efforts and activities institutions use to sustain themselves over time.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions,



and an expected timeline for the development of a coded solution;

- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

JOURNEY 2050 LESSON 2: SOIL NUTRIENTS

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems



- 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
- 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;



JOURNEY 2050 LESSON 3: WATER

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a



framework for making connections across disciplines. The student is expected to:

- 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a



framework for making connections across disciplines. The student is expected to:

- 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.27.b.10: Earth and space. The student understands the causes and effects of plate tectonics. The student is expected to:
 - 112.27.b.10.A: describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions



- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;
 - 130.2.c.15.b: identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.c: identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.d: research and analyze alternative energy sources that stem from or impact agriculture, food, and natural resources; and
 - 130.2.c.15.e: evaluate energy and water conservation methods.

JOURNEY 2050 LESSON 4: ECONOMY

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses



metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:

- 110.24.b.5.H: synthesize information to create new understanding;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.26.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems



- 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
- 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and



- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

JOURNEY 2050 LESSON 5: LAND USE

o English Language Arts

o 6th Grade:

- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;

o 7th Grade:

- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;

o 8th Grade:

- 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

o Math

o 6th Grade:

- 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate
- 111.26.b.4: Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to:
 - 111.26.b.4.E: represent ratios and percents with concrete models, fractions, and decimals;

o 7th Grade:



- 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
- Science
 - 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.10: Earth and space. The student understands the causes and effects of plate tectonics. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
 - 112.26.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:



- 112.26.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
 - 112.26.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies



problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem
- Social Studies
 - 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;



- 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;
 - 130.2.c.15.b: identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.c: identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.d: research and analyze alternative energy sources that stem from or impact agriculture, food, and natural resources; and
 - 130.2.c.15.e: evaluate energy and water conservation methods.

JOURNEY 2050 LESSON 6: CAREERS FOR 2050 AND BEYOND!

English Language Arts

○ 6th Grade:

- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;



- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

Math – No Math TEKS
Science

- 6th Grade
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



- phenomena, or design solutions using appropriate tools and models. The student is expected to:
- 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 8th Grade:
- 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;



- 112.28.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions

Social Studies

- 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.



JOURNEY 2050 LESSON 7: TECHNOLOGY AND INNOVATIONS

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a



framework for making connections across disciplines. The student is expected to:

- 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - of organism, population, and community within an ecosystem
- 7th Grade:
- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems



- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems

Social Studies

- 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and



- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;



- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and

LAND AND SOIL IN THE ECOSYSTEM

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;



- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate
 - 111.26.b.4: Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to:
 - 111.26.b.4.E: represent ratios and percents with concrete models, fractions, and decimals;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:



- 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
- 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.2.D: evaluate experimental and engineering designs
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private



- companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.27.b.2.D: evaluate experimental and engineering designs
- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats



- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:



- 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.28.b.2.D: evaluate experimental and engineering designs
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the



importance of scientific research and innovation on society. The student is expected to:

- 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies

○ 6th Grade

- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and



- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;



- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
 - 130.2.c.10.b: identify and describe the process of soil formation; and
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;
 - 130.2.c.15.b: identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.c: identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;
 - 130.2.c.15.d: research and analyze alternative energy sources that stem from or impact agriculture, food, and natural resources; and
 - 130.2.c.15.e: evaluate energy and water conservation methods.

LET'S VOTE ON IT

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral



- language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
- 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral



language. The student develops oral language through listening, speaking, and discussion. The student is expected to:

- 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
- 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking-- fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;

Math

- 6th Grade:
 - 111.26.b.12: Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to:
 - 111.26.b.12.A: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data

Social Studies

- 8th Grade:
 - 113.20.c.19: Citizenship. The student understands the rights and responsibilities of citizens of the United States. The student is expected to:
 - 113.20.c.19.C: identify examples of responsible citizenship, including obeying rules and laws, staying informed on public issues, voting, and serving on juries.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.5: The student analyzes the structure of agriculture, food, and natural resources leadership in organizations. The student is expected to:
 - 130.2.c.5.a: develop and demonstrate leadership skills and collaborate with others to accomplish organizational goals and objectives;
 - 130.2.c.5.c: demonstrate democratic principles in conducting effective meetings.
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;

MICROBES – THEY'RE EVERYWHERE!

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;



- 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
 - 8th Grade:



- 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
- 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.5.H: synthesize information to create new understanding;
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



- phenomena, or design solutions using appropriate tools and models. The student is expected to:
- 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
- 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.12: Organisms and environments. The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.B: describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism
- 7th Grade:
- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:



- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.1.d: analyze employers' expectations such as appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills; and
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.

MIND YOUR OWN BEESWAX

English Language Arts

○ 6th Grade:

- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:



- 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
 - 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;



- 110.24.b.12.F: synthesize information from a variety of sources;
- 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS
Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories



- 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data



- 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:



- 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, properties, and materials



- 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions

Social Studies

○ 6th Grade

- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.



- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;



- 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
- 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.



- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.8: The student applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records. The student is expected to:
 - 130.2.c.8.a: develop a formal business plan; and
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;

MIX IT UP! FOOD SCIENTIST

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages



in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:

- 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
- 110.22.b.12.D: identify and gather relevant information from a variety of sources;

○ 7th Grade:

- 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;

○ 8th Grade:

- 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;



Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently;
 - 111.26.b.3.E: multiply and divide positive rational numbers fluently.
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently; and
 - 111.27.b.3.B: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
- 8th Grade:



- 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems

Science

- 6th Grade:
 - 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.1.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.26.b.1.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.1.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.1.D: evaluate experimental and engineering designs



- 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.1.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.27.b.1.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.1.C: use mathematical calculations to assess quantitative relationships in data



- 112.27.b.1.D: evaluate experimental and engineering designs
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.1.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.28.b.1.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations



- 112.28.b.1.C: use mathematical calculations to assess quantitative relationships in data
- 112.18.b.1.D: evaluate experimental and engineering designs
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.b.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:



- 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Career and College Exploration

- 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - 127.2.d.1.d: research and evaluate emerging occupations related to career interest areas.

Principles of Agriculture, Food, and Natural Resource

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.13: The student describes the principles of food products and processing



- 130.2.c.13.a: evaluate food products and processing systems;
- 130.2.c.13.b: determine trends in world food production;
- 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

MYSTERY JUICE

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:



- 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
- 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS
Science

- 6th Grade:



- 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.1.H: distinguish between scientific hypotheses, theories, and laws
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - impact stability and change in objects, organisms, and systems
 - 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.D: compare the density of substances relative to various fluids
 - 112.26.b.6.E: identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.B: describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism;
 - 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.A: describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function
 - 112.26.b.13.B: identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:



- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.1.H: distinguish between scientific hypotheses, theories, and laws
- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used



- 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.14.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.27.b.6: Matter and Energy: The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:
 - 112.27.b.6.C: distinguish between physical and chemical changes in matter
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:
 - 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards



- 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.28.b.1.H: distinguish between scientific hypotheses, theories, and laws
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and



matter is conserved in chemical changes that occur within closed systems. The student is expected to:

- 112.28.b.6.A: explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.C: describe the carbon cycle

Social Studies

○ 6th Grade

- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

○ 7th Grade:

- 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

○ 8th Grade:

- 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



established research methodologies from a variety of valid sources, including technology. The student is expected to:

- 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.7.c: describe scientific methods of research.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

OVERFISHING AND AQUACULTURE

English Language Arts

○ 6th Grade:

- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.C: use text evidence to support an appropriate response;
 - 110.22.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses



- genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
- 110.22.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.C: use text evidence to support an appropriate response;
 - 110.23.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 10.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.23.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;



- 110.23.b.12.F: synthesize information from a variety of sources;
- 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.C: use text evidence to support an appropriate response;
 - 110.24.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:



- 111.26.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
- 111.26.b.5: Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to:
 - 111.26.b.1.5.A: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions;
- 111.26.b.12: Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to:
 - 111.26.b.12.A: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
 - 111.27.b.6: Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.6.G: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;

Science

- 6th Grade:



- 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.H: distinguish between scientific hypotheses, theories, and laws
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
 - 112.26.b.10.C: describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations



- 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.1.H: distinguish between scientific hypotheses, theories, and laws
- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems



- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats



- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.10: Earth and space. The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:
 - 112.28.b.10.A: describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate
 - 112.28.b.10.B: identify global patterns of atmospheric movement and how they influence local weather
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity

Social Studies

○ 6th Grade

- 113.18.c.8: Economics. The student understands categories of economic activities and the data used to measure a society's economic level. The student is expected to:



- 113.18.c.8.A: define and give examples of agricultural, retail, manufacturing (goods), and service industries;
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 13.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;



Technology Applications

○ 6th Grade:

- 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

○ 7th Grade:

- 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;



- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:
 - 130.2.c.12.a: describe animal growth and development;
 - 130.2.c.12.c: identify and evaluate breeds and classes of livestock; and
 - 130.2.c.12.d: explain animal selection, reproduction, breeding, and genetics.
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;
 - 130.2.c.15.b: identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;



- 130.2.c.15.c: identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;

PHOTOPERIOD PHENOMENA

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.E: make connections to personal experiences, ideas in other texts, and society;
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.A: describe personal connections to a variety of sources, including self-selected texts;
 - 110.22.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.E: make connections to personal experiences, ideas in other texts, and society;
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:



- 110.23.b.6.A: describe personal connections to a variety of sources, including self-selected texts;
- 110.23.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.E: make connections to personal experiences, ideas in other texts, and society;
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.A: describe personal connections to a variety of sources, including self-selected texts;
 - 110.24.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;



Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
 - 112.26.b.9: Earth and Space: The student models the cyclical movements of the Sun, Earth, and Moon and describes their effects. The student is expected to:



- 112.26.b.9.A: model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a



- science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the



importance of scientific research and innovation on society. The student is expected to:

- 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
- 112.28.b.10: Earth and space. The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:
 - 112.28.b.10.A: describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.21.D: create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies based on research;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:
 - 130.2.c.12.a: describe animal growth and development;
 - 130.2.c.12.d: explain animal selection, reproduction, breeding, and genetics.
 - 130.2.c.13: The student describes the principles of food products and processing



- 130.2.c.13.a: evaluate food products and processing systems;
- 130.2.c.13.b: determine trends in world food production;

PHOTOSYNTHESIS: ENERGY'S JOURNEY FROM FARM TO YOU

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:



- 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math – No Math TEKS

Science

○ 6th Grade:

- 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.E: identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources

○ 7th Grade:



- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:



- 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.E: investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis
 - 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

Social Studies

- 6th Grade:



- 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:



- 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
- 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;

PLANET ZORCON

- English Language Arts

- 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.A: listen actively to interpret a message, ask clarifying questions, and respond appropriately;
- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.C: use text evidence to support an appropriate response;
 - 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;

- 7th Grade:

- 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.A: listen actively to interpret a message and ask clarifying questions that build on others' ideas;
- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses



- metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.C: use text evidence to support an appropriate response;
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.A: listen actively to interpret a message by summarizing, asking questions, and making comments;
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.C: use text evidence to support an appropriate response;
 - 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;
- Math
 - 6th Grade:
 - 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently;
 - 7th Grade:



- 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently;
- Science
 - 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources



- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.E: System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:



- 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
- 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.38.b.10: Earth and space. The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:
 - 112.28.b.10.A: describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate
 - 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.B: use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate
 - 112.28.b.11.C: describe the carbon cycle



- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
- Social Studies
 - 6th Grade
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 7th Grade:
 - 113.19.c.11: Economics. The student understands the factors that caused Texas to change from an agrarian to an urban society. The student is expected to:
 - 113.19.11.B: explain the changes in the types of jobs and occupations that have resulted from the urbanization of Texas.
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- Career and College Exploration
 - 7th and 8th Grade:
 - 127.2.d.1: The student takes one or more career interest surveys, aptitude tests, or career assessments and explores various college and career options. The student is expected to:
 - 127.2.d.1.c: identify various career opportunities within one or more career clusters; and
 - Principles of Agriculture, Food, and Natural Resources
 - 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.c: demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;
 - 130.2.c.1.d: analyze employers' expectations such as appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills; and
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;



- 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.15: The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:
 - 130.2.c.15.a: determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;

PLANT NUTRIENT DEFICIENCIES

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 7th Grade:



- 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.
- 8th Grade:
- 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.3: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.

Math – No MATH TEKS

Science

- 6th Grade:
- 112.26.b.11: Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.12: Organisms and environments. The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

Social Studies – No Social Studies TEKS

Principles of Agriculture, Food, and Natural Resources



- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
 - 130.2.c.10.b: identify and describe the process of soil formation; and

PLANT PROPAGATION

English Language Arts

- 6th Grade:
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds



to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:

- 110.22.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
- 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;

○ 7th Grade:

▪ 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:

- 110.23.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
- 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;

○ 8th Grade:

▪ 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:

- 110.24.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
- 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math – No Math TEKS

Science

○ 6th Grade:

▪ 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.26.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
- 112.26.b.1.H: distinguish between scientific hypotheses, theories, and laws

▪ 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover



- relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
- 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.27.b.1.H: distinguish between scientific hypotheses, theories, and laws



- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 112.27.b.13: Organisms and Environments: The student knows how systems are organized and function to support the health of an organism and how traits are inherited. The student is expected to:
 - 112.27.b.13.C: compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time
 - 112.27.b.13.D: describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations
- 112.27.b.14: Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:



- 112.27.b.14.A: describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups
- 112.27.b.14.B: describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.C: use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards
 - 112.28.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a



framework for making connections across disciplines. The student is expected to:

- 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.13: Organisms and Environments: The student knows how cell functions support the health of an organism and how adaptation and variation relate to survival. The student is expected to:
 - 112.28.b.13.B: describe the function of genes within chromosomes in determining inherited traits of offspring
 - 112.28.b.13.C: describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through



established research methodologies from a variety of valid sources, including technology. The student is expected to:

- 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;
 - 130.2.c.11.c: describe plant reproduction, genetics, and breeding;
 - 130.2.c.11.d: identify plants of importance to agriculture, food, and natural resources; and
 - 130.2.c.11.e: use tools, equipment, and personal protective equipment common to plant systems.



ROBOTS IN HIGH-TECH FARMING

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.B: follow and give oral instructions that include multiple action steps;
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.B: follow and give complex oral instructions to perform specific tasks, answer questions, or solve problems;
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues

Math – No Math TEKS

Science

- 6th Grade:



- 112.26.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.26.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.26.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies



- problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
- 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.27.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain



phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, scale, properties, and materials
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.28.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade:

- 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:



- 113.18.b.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.19: Science, technology, and society. The student understands the impact of scientific discoveries and technological innovations on the political, economic, and social development of Texas. The student is expected to:
 - 113.19.c.19.A: compare types and uses of technology, past and present;
 - 113.19.c.19.C: analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.27: Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States. The student is expected to:
 - 113.20.b.27.A: explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:



- 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;
- 8th Grade:
 - 8.126.19.c.12: Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:
 - 8.126.19.c.12.C: select and use appropriate platform and tools, including selecting and using software or hardware to transfer data;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:



- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.a: identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;



- 130.2.c.9: The student uses information technology tools to access, manage, integrate, and create information related to agriculture, food, and natural resources. The student is expected to:
 - 130.2.c.9.a: apply technology applications such as industry-relevant software and Internet applications;
 - 130.2.c.9.c: analyze the benefits and limitations of emerging technology such as online mapping systems, drones, and robotics; and
 - 130.2.c.9.d: explain the benefits of computer-based and mobile application equipment in agriculture, food, and natural resources.

SCIENCE YOU CAN EAT

English Language Arts

○ 6th Grade:

- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.C: use text evidence to support an appropriate response;
 - 110.22.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
- 110.22.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.22.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:



- 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.C: use text evidence to support an appropriate response;
 - 110.23.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 10.23.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.23.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
 - 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:



- 110.24.b.5.H: synthesize information to create new understanding;
- 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.C: use text evidence to support an appropriate response;
 - 110.24.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
- 110.24.b.11: Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
 - 110.24.b.11.D: compose correspondence that reflects an opinion, registers a complaint, or requests information in a business or friendly structure.
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence



- 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.A: compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules
 - 112.26.b.6.B: investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures
 - 112.26.b.6.E: identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change
- 7th Grade:



- 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.1.H: distinguish between scientific hypotheses, theories, and laws
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.6: Matter and Energy: The student knows that matter has measurable physical properties that determine how matter



is identified, classified, changed, and used. The student is expected to:

- 112.27.b.6.C: distinguish between physical and chemical changes in matter
- 112.27.b.6.D: describe aqueous solutions in terms of solute and solvent, concentration, and dilution
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.1.H: distinguish between scientific hypotheses, theories, and laws
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.A: explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures
 - 112.28.b.6.E: investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:



- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.b: use a variety of resources for research and development; and
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

SHEEP SEE, SHEEP DO

English Language Arts

- 6th Grade:

- 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:



- 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.C: use text evidence to support an appropriate response;
 - 110.22.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.C: use text evidence to support an appropriate response;
 - 110.23.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:



- 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
- 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.C: use text evidence to support an appropriate response;
 - 110.24.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats



- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
- 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.C: identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life
- 112.26.b.13: Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:
 - 112.26.b.13.C: describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:



- 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
 - 112.11.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
 - 112.27.b.13: Organisms and Environments: The student knows how systems are organized and function to support the health of an organism and how traits are inherited. The student is expected to:
 - 112.27.b.13.C: compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time;
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:



- 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
- 112.28.b.13: Organisms and Environments: The student knows how cell functions support the health of an organism and how adaptation and variation relate to survival. The student is expected to:
 - 112.28.b.13.B: describe the function of genes within chromosomes in determining inherited traits of offspring
 - 112.28.b.13.C: describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations

Social Studies – No Social Studies
Technology Applications



- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
 - 6.126.17.c.12: Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:
 - 6.126.17.c.12.C: select and use the appropriate platform and tools to complete a specific task or project;
 - 6.126.17.c.12.H: use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts such as reports, graphs, and charts.
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;
 - 7.126.18.c.12: Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:
 - 7.126.18.c.12.C: select and use appropriate platform and tools, including selecting and using software or hardware for a defined task;
 - 7.126.18.c.12.H: select and use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts such as reports, graphs, and charts with increasing complexity.
- 8th Grade:



- 8.126.19.c.12: Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts. The student is expected to:
 - 8.126.19.c.12.C: select and use appropriate platform and tools, including selecting and using software or hardware to transfer data;
 - 8.126.19.c.12.H: select and use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts, including reports, graphs, and charts, with increasing complexity.
- Principles of Agriculture, Food, and Natural Resources
 - 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:
 - 130.2.c.12.d: explain animal selection, reproduction, breeding, and genetics.

SOIL AND SUSTAINABILITY

English Language Arts

- 6th Grade:



- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.C: use text evidence to support an appropriate response;
 - 110.22.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
- 7th Grade:
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.C: use text evidence to support an appropriate response;
 - 110.23.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
- 8th Grade:
 - 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.C: use text evidence to support an appropriate response;
 - 110.24.b.6.H: respond orally or in writing with appropriate register, vocabulary, tone, and voice;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;



- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently; and
 - 111.26.b.3.E: multiply and divide positive rational numbers fluently.
 - 111.26.b.4: Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to:
 - 111.26.b.4.H: convert units within a measurement system, including the use of proportions and unit rates.
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently; and
 - 111.27.b.3.B: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
 - 111.27.b.4: Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.4.E: convert between measurement systems, including the use of proportions and the use of unit rates.
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:



- 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;

Science

○ 6th Grade:

- 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.11.B: explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources
- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as



availability of light and water, range of temperatures, or soil composition

- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems



- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.D: compare and contrast the properties of acids and bases, including pH relative to water
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
 - 112.28.b.12.B: describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
 - 112.28.b.12.C: describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps; and
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:



- 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:



- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.d: identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
 - 130.2.c.10.b: identify and describe the process of soil formation; and
 - 130.2.c.10.c: conduct experiments related to soil chemistry.

SOURCE SLEUTH: INVESTIGATING CREDIBLE SOURCES ABOUT BEEF

English Language Arts

○ 6th Grade:

- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;



- 110.22.b.12.F: synthesize information from a variety of sources;
- 110.22.b.12.H: examine sources for:
 - 110.22.b.12.H.i: reliability, credibility, and bias;
- 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.H: examine sources for:
 - 110.23.b.12.H.i: reliability, credibility, and bias;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.H: examine sources for:
 - 110.24.b.12.H.i: reliability, credibility, and bias, including omission;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 7th Grade:



- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 8th Grade:
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems

Social Studies

- 6th Grade:
 - 113.18.c.19: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.18.c.19.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.C: organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

Technology Applications

- 6th Grade:
 - 6.126.17.c.9: Digital citizenship--ethics and laws. The student recognizes and practices responsible, legal, and ethical behavior



while using digital tools and resources. The student is expected to:

- 6.126.17.c.9.D: describe how information can be exaggerated or misrepresented online.
- 7th Grade:
 - 7.126.18.c.9: Digital citizenship--ethics and laws. The student recognizes and practices responsible, legal, and ethical behavior while using digital tools and resources. The student is expected to:
 - 7.126.18.c.9.D: evaluate how various types of media, including social media, and technology can be used to exaggerate and misrepresent information.
- 8th Grade:
 - 8.126.19.c.9: Digital citizenship--ethics and laws. The student recognizes and practices responsible, legal, and ethical behavior while using digital tools and resources. The student is expected to:
 - 8.126.19.c.9.D: evaluate the bias of digital information sources, including websites.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:



- 130.2.c.7.b: use a variety of resources for research and development; and

SPICE-UP SPACE FOOD

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:



- 110.24.b.5.H: synthesize information to create new understanding;
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math - No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations



- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
- 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations



- to develop evidence-based arguments or evaluate designs. The student is expected to:
- 112.27.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data



- 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
- 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;



- 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern



recognition, abstraction, and algorithms. The student is expected to:

- 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
- 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

○ 8th Grade:

- 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
- 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;



- 130.2.c.13.b: determine trends in world food production;
- 130.2.c.13.c: discuss current issues in food production; and
- 130.2.c.13.d: use tools, equipment, and personal protective equipment common to food products and processing systems.

SUPERMARKET SMARTS

English Language Arts

○ 6th Grade:

- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

○ 7th Grade:

- 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages



in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:

- 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
- 110.23.b.12.D: identify and gather relevant information from a variety of sources;
- 110.23.b.12.F: synthesize information from a variety of sources;
- 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

○ 8th Grade:

- 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
- 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.

Math – No Math TEKS

Science

○ 6th Grade:

- 112.26.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats

○ 7th Grade:

- 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates



findings, conclusions, and proposed solutions. The student is expected to:

- 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 8th Grade:
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.b.21.C: express ideas orally based on research and experiences;
 - 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 7th Grade:
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and



disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
 - 6.126.17.c.5: Data literacy, management, and representation--collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:
 - 6.126.17.c.5.B: discuss and use advanced search strategies, including keywords, Boolean operators, and limiters.
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.5: Data literacy, management, and representation--collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:
 - 7.126.18.c.5.B: evaluate advanced search strategies, including keywords, Boolean operators, and limiters.
- 8th Grade:
 - 8.126.19.c.5: Data literacy, management, and representation--collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:
 - 8.126.19.c.5.B: apply appropriate search strategies, including keywords, Boolean operators, and limiters, to



achieve a specified outcome that includes a variety of file formats.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.f: compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment,
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.b: use a variety of resources for research and development; and
 - 130.2.c.13: The student describes the principles of food products and processing
 - 130.2.c.13.a: evaluate food products and processing systems;
 - 130.2.c.13.b: determine trends in world food production;
 - 130.2.c.13.c: discuss current issues in food production; and

SUPPLY AND DEMAND: WHAT IF?

English Language Arts

- 6th Grade:



- 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
- 110.22.b.2: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to:
 - 110.22.b.2.A: use print or digital resources to determine the meaning, syllabication, pronunciation, word origin, and part of speech;
 - 110.22.b.2.B: use context such as definition, analogy, and examples to clarify the meaning of words;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.2: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to:
 - 110.23.b.2.A: use print or digital resources to determine the meaning, syllabication, pronunciation, word origin, and part of speech;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues.
 - 110.24.b.2: Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to:



- 110.24.b.2.A: use print or digital resources to determine the meaning, syllabication, pronunciation, word origin, and part of speech;
- 110.24.b.2.B: use context within or beyond a paragraph to clarify the meaning of unfamiliar or ambiguous words;

Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
 - 111.26.b.5: Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to:
 - 111.26.b.5.A: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions;
 - 111.26.b.12: Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to:
 - 111.26.b.12.A: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots;
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.D: communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.D: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;



- 111.28.b.11: Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to:
 - 111.28.b.11.A: construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data;

Science – No Science TEKS

Social Studies

- 7th Grade:
 - 113.19.c.12: Economics. The student understands the interdependence of the Texas economy with the United States and the world. The student is expected to:
 - 113.19.c.12.B: explain the impact of economic concepts within the free enterprise system such as supply and demand, profit, and world competition on the economy of Texas;

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.



- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.

THE COLUMBIAN EXCHANGE OF OLD AND NEW WORLD FOODS

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.C: give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.22.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.



- 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.A: generate student-selected and teacher-guided questions for formal and informal inquiry;
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content



- 112.26.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.11: Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
- 7th Grade:
 - 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 8th Grade:
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.1.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers

Social Studies

- 6th Grade:
 - 113.18.c.3: Geography. The student understands the factors that influence the locations and characteristics of locations of



various contemporary societies on maps and/or globes. The student is expected to:

- 113.18.c.3.D: identify the location of major world countries for each of the world regions.
- 113.18.c.15: Culture. The student understands relationships that exist among world cultures. The student is expected to:
 - 113.18.c.15.B: identify and describe factors that influence cultural change such as improvements in communication, transportation, and economic development;
 - 113.18.c.15.D: identify the impact of cultural diffusion on individuals and world societies.
- 113.18.c.18: Science, technology, and society. The student understands the influences of science and technology on contemporary societies. The student is expected to:
 - 113.18.c.18.A: identify examples of scientific discoveries, technological innovations, and scientists and inventors that have shaped the world;
- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
 - 113.18.c.21.D: create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies based on research;

Technology Applications

- 6th Grade:
 - 6.126.17.c.5: Data literacy, management, and representation-- collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:
 - 6.126.17.c.5.B: discuss and use advanced search strategies, including keywords, Boolean operators, and limiters.
- 7th Grade:
 - 7.126.18.c.5: Data literacy, management, and representation-- collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:
 - 7.126.18.c.5.B: evaluate advanced search strategies, including keywords, Boolean operators, and limiters.
- 8th Grade:
 - 8.126.19.c.5: Data literacy, management, and representation-- collect data. The student uses advanced digital strategies to collect and represent data. The student is expected to:
 - 8.126.19.c.5.B: apply appropriate search strategies, including keywords, Boolean operators, and limiters, to



achieve a specified outcome that includes a variety of file formats.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.3: The student analyzes concepts related to global diversity. The student is expected to:
 - 130.2.c.3.a: compare and contrast global agricultural markets, currency, and trends; and
 - 130.2.c.3.b: evaluate marketing factors and practices that impact the global markets.
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.c: evaluate significant historical and current agriculture, food, and natural resources developments;

THE REMARKABLE RUMINANT

English Language Arts

- 6th Grade:
 - 110.22.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.22.b.1.D: participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement.
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.G: evaluate details read to determine key ideas;



- 110.22.b.5.H: synthesize information to create new understanding;
- 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.22.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
 - 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - 110.23.b.1.D: engage in meaningful discourse and provide and accept constructive feedback from others.
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.G: evaluate details read to determine key ideas;
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.23.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.1: Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:



- 110.24.b.1.D: participate collaboratively in discussions, plan agendas with clear goals and deadlines, set time limits for speakers, take notes, and vote on key issues
- 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.G: evaluate details read to determine key ideas;
 - 110.24.b.5.H: synthesize information to create new understanding;
- 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.D: paraphrase and summarize texts in ways that maintain meaning and logical order;
 - 110.24.b.6.E: interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
 - 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math – No Math TEKS
Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private



- companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.B: investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures
 - 112.26.b.6.C: identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life
 - 112.26.b.6.D: identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change
 - 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
 - 112.26.b.12: Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:
 - 112.26.b.12.A: investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory,



and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

- 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
- 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
- 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.6: Matter and Energy: The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:
 - 112.27.b.6.C: distinguish between physical and chemical changes in matter
 - 112.27.b.6.D: describe aqueous solutions in terms of solute and solvent, concentration, and dilution
 - 112.27.b.6.E: investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:



- 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
 - 112.27.b.13: Organisms and Environments: The student knows how systems are organized and function to support the health of an organism and how traits are inherited. The student is expected to:
 - 112.27.b.13.A: identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:



- 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
- 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.A: explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures
 - 112.28.b.6.E: investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

Social Studies

- 7th Grade:
 - 113.19.c.11: Economics. The student understands the factors that caused Texas to change from an agrarian to an urban society. The student is expected to:
 - 113.19.11.B: explain the changes in the types of jobs and occupations that have resulted from the urbanization of Texas.

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.



- 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
- 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
- 130.2.c.12: The student develops technical knowledge and skills related to animal systems. The student is expected to:
 - 130.2.c.12.a: describe animal growth and development;
 - 130.2.c.12.c: identify and evaluate breeds and classes of livestock; and
 - 130.2.c.12.d: explain animal selection, reproduction, breeding, and genetics.

THE RIGHT SOLUTION

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;



Math

- 6th Grade:
 - 111.26.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.26.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.26.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.26.b.3: Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:
 - 111.26.b.3.D: add, subtract, multiply, and divide integers fluently; and
 - 111.26.b.3.E: multiply and divide positive rational numbers fluently.
 - 111.26.b.4: Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to:
 - 111.26.b.4.H: convert units within a measurement system, including the use of proportions and unit rates.
- 7th Grade:
 - 111.27.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.27.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.27.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - 111.27.b.3: Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:
 - 111.27.b.3.A: add, subtract, multiply, and divide rational numbers fluently;
 - 111.27.b.3.B: apply and extend previous understandings of operations to solve problems using addition,



subtraction, multiplication, and division of rational numbers.

- 111.27.b.4: Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to:
 - 111.27.b.4.E: convert between measurement systems, including the use of proportions and the use of unit rates.
- 8th Grade:
 - 111.28.b.1: Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
 - 111.28.b.1.A: apply mathematics to problems arising in everyday life, society, and the workplace;
 - 111.28.b.1.C: select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions



- 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.26.b.6: Matter and Energy: The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:
 - 112.26.b.6.A: compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals
 - 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
 - 112.27.b.6: Matter and Energy: The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:
 - 112.27.b.6.D: describe aqueous solutions in terms of solute and solvent, concentration, and dilution
- 8th Grade:



- 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.D: use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, weather maps, hand lenses, and lab notebooks or journals
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.6: Matter and Energy: The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:
 - 112.28.b.6.A: explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures

Social Studies – No Social Studies TEKS

Technology Applications

- 6th Grade:

- 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;



Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.1.e: identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.10: The student develops technical knowledge and skills related to soil systems. The student is expected to:
 - 130.2.c.10.a: identify the components and properties of soils;
 - 130.2.c.10.b: identify and describe the process of soil formation; and
 - 130.2.c.10.c: conduct experiments related to soil chemistry.
 - 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.b: discuss and apply plant germination, growth, and development;

WATER OPS FOR GROWING

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages



- in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
- 110.22.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.22.b.12.F: synthesize information from a variety of sources;
 - 110.22.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 7th Grade:
- 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.23.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.23.b.12.F: synthesize information from a variety of sources;
 - 110.23.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
- 8th Grade:
- 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.24.b.5.H: synthesize information to create new understanding;
 - 110.24.b.12: Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
 - 110.24.b.12.D: identify and gather relevant information from a variety of sources;
 - 110.24.b.12.F: synthesize information from a variety of sources;
 - 110.24.b.12.J: use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.



- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
 - 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions



- 112.26.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
- 112.26.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
- 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system
- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates



findings, conclusions, and proposed solutions. The student is expected to:

- 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
- 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.27.b.3.C: engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.27.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
 - 112.27.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.27.b.10: Earth and space. The student understands the causes and effects of plate tectonics. The student is expected to:
 - 112.27.b.10.A: describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition



- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:
 - 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
 - 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the



importance of scientific research and innovation on society. The student is expected to:

- 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.28.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
 - 112.28.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - , organisms, and systems
 - 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.A: use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate

Social Studies

○ 6th Grade:

- 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 113.18.c.22: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.18.c.22.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.



- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.19.c.23: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.19.c.23.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
 - 113.20.c.31: Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:
 - 113.20.c.31.B: use problem-solving and decision-making processes to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution.

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.A: decompose real-world problems into structured parts by using visual representation;
 - 6.126.17.c.1.B: analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data;



- 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;
- 7th Grade:
 - 7.126.18.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 7.126.18.c.1.A: decompose real-world problems into structured parts using flowcharts;
 - 7.126.18.c.1.B: analyze the patterns and sequences found in flowcharts;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.6: The student demonstrates appropriate personal and communication skills. The student is expected to:
 - 130.2.c.6.a: demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and
 - 130.2.c.6.b: demonstrate effective listening skills appropriate for formal and informal situations.
 - 130.2.c.7: The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:
 - 130.2.c.7.a: discuss major research and developments in the fields of agriculture, food, and natural resources;
 - 130.2.c.7.b: use a variety of resources for research and development; and



- 130.2.c.9: The student uses information technology tools to access, manage, integrate, and create information related to agriculture, food, and natural resources. The student is expected to:
 - 130.2.c.9.a: apply technology applications such as industry-relevant software and Internet applications;
 - 130.2.c.9.c: analyze the benefits and limitations of emerging technology such as online mapping systems, drones, and robotics; and
 - 130.2.c.9.d: explain the benefits of computer-based and mobile application equipment in agriculture, food, and natural resources.

WHAT? NO SOIL?

English Language Arts

- 6th Grade:
 - 110.22.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.22.b.5.H: synthesize information to create new understanding;
 - 110.22.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.22.b.6.F: respond using newly acquired vocabulary as appropriate;
- 7th Grade:
 - 110.23.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
 - 110.23.b.5.H: synthesize information to create new understanding;
 - 110.23.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.23.b.6.F: respond using newly acquired vocabulary as appropriate;
- 8th Grade:
 - 110.24.b.5: Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses



metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:

- 110.24.b.5.H: synthesize information to create new understanding;
- 110.24.b.6: Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
 - 110.24.b.6.F: respond using newly acquired vocabulary as appropriate;

Math – No Math TEKS

Science

- 6th Grade:
 - 112.26.b.1: The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.26.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.26.b.1.B: use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems
 - 112.26.b.1.C: use appropriate safety equipment and practices
 - 112.26.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.26.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.26.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.26.b.2: The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.26.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.26.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations



- 112.26.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.26.b.2.D: evaluate experimental and engineering designs
- 112.26.b.3: The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.26.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
 - 112.26.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.26.b.4: The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.26.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.26.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.26.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.26.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
 - 112.26.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.26.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
 - 112.26.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.26.b.10: Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:
 - 112.26.b.10.A: differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system



- 112.26.b.11: Earth and space. Earth and space. The student understands how resources are managed. The student is expected to:
 - 112.26.b.11.A: research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
- 7th Grade:
 - 112.27.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.27.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.27.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.27.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.27.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.27.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.27.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.27.b.2.A: identify advantages and limitations of models such as their size, properties, and materials
 - 112.27.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
 - 112.27.b.2.C: use mathematical calculations to assess quantitative relationships in data
 - 112.27.b.2.D: evaluate experimental and engineering designs
 - 112.27.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates



findings, conclusions, and proposed solutions. The student is expected to:

- 112.27.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories
- 112.27.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
- 112.27.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.27.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.27.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.27.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions
 - 112.27.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
 - 112.27.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
 - 112.27.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
 - 112.27.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems of water, and composition of the atmosphere
- 112.27.b.10: Earth and space. The student understands the causes and effects of plate tectonics. The student is expected to:
 - 112.27.b.10.A: describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition
- 112.27.b.11: Earth and space. The student understands how human activity can impact the hydrosphere. The student is expected to:



- 112.27.b.11.A: analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
- 112.27.b.11.B: describe human dependence and influence on ocean systems and explain how human activities impact these systems
- 112.27.b.12: Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:
 - 112.27.b.12.A: diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
 - 112.27.b.12.B: describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
- 8th Grade:
 - 112.28.b.1: Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - 112.28.b.1.A: ask questions and define problems based on observations or information from text, phenomena, models, or investigations
 - 112.28.b.1.B: use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems
 - 112.28.b.1.E: collect quantitative data using the International System of Units (SI) and qualitative data as evidence
 - 112.28.b.1.F: construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data
 - 112.28.b.1.G: develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
 - 112.28.b.2: Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - 112.28.b.2.A: identify advantages and limitations of models such as their size, properties, and materials



- 112.28.b.2.B: analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
- 112.28.b.2.C: use mathematical calculations to assess quantitative relationships in data
- 112.28.b.2.D: evaluate experimental and engineering designs
- 112.28.b.3: Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - 112.28.b.3.A: develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - 112.28.b.3.B: communicate explanations and solutions individually and collaboratively in a variety of settings and formats
 - 112.28.b.3.C: engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
- 112.28.b.4: Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - 112.28.b.4.A: relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content
 - 112.28.b.4.B: make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used
 - 112.28.b.4.C: research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers
- 112.28.b.5: Recurring Themes and Concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:
 - 112.28.b.5.A: identify and apply patterns to understand and connect scientific phenomena or to design solutions



- 112.28.b.5.B: identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
- 112.28.b.5.C: analyze how differences in scale, proportion, or quantity affect a system's structure or performance
- 112.28.b.5.D: examine and model the parts of a system and their interdependence in the function of the system
- 112.28.b.5.E: analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
- 112.28.b.5.F: analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems
- 112.28.b.5.G: analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems
- 112.28.b.11: Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to:
 - 112.28.b.11.A: use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate
- 112.28.b.12: Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:
 - 112.28.b.12.A: explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

Social Studies

- 6th Grade:
 - 113.18.c.21: Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:
 - 113.18.c.21.C: express ideas orally based on research and experiences;
- 7th Grade:
 - 113.19.c.20: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:



- 113.19.c.20.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;
- 8th Grade:
 - 113.20.c.29: Social studies skills. The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including technology. The student is expected to:
 - 113.20.c.29.E: formulate and communicate visually, orally, or in writing a claim supported by evidence and reasoning related to a social studies topic;

Technology Applications

- 6th Grade:
 - 6.126.17.c.1: Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:
 - 6.126.17.c.1.D: design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution;

Principles of Agriculture, Food, and Natural Resources

- 8th Grade:
 - 130.2.c.1: The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - 130.2.c.1.b: apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;
 - 130.2.c.4: The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:
 - 130.2.c.4.a: define the scope of agriculture;
 - 130.2.c.4.b: analyze the scope of agriculture, food, and natural resources and its effect upon society;
 - 130.2.c.4.e: describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and
 - 130.2.c.11: The student develops technical knowledge and skills related to plant systems. The student is expected to:
 - 130.2.c.11.a: describe the structure and functions of plant parts;



TEXAS FARM BUREAU®

- 130.2.c.11.b: discuss and apply plant germination, growth, and development;