



Lesson: Inventors/Inventions  
Who are inventors, and how do ideas turn into inventions?  
Social Studies & ELA  
Grades 3,4

Lesson Length: Five 45 to 60-minute class periods

*\*Note: This may vary based on how individual teachers choose to facilitate/structure this lesson.*

Suggested Course Alignment:

*\*Note: The corresponding video and book could be used to teach other concepts and ideas including planting and growth cycles in science. The lesson could also be expanded to include 5<sup>th</sup> grade if desired.*

- Social Studies
  - 3.10 (A)
  - 4.18 (A) & (B)
- ELA
  - 3.1 (A), (C), (D), (E); 3.6 (G), (H), (I); 3.13 (C), (E)
  - 4.1 (A), (D); 4.6 (G), (H), (I); 4.13 (C), (E)

Engage: (Suggested for Day 1)

- Have students watch the Texas Farm Bureau “Grain Sorghum/Combine” video here: <https://vimeo.com/454423763>.
  - Key words to note will be displayed on the screen.
- After watching the video:
  - 1. Write the definition of “Invention” on the board
  - 2. Using individual whiteboards (individual sheets of paper can be used if whiteboards are not available), ask students to write one thing they know about machines/inventions.
  - 3. Call on two students to elaborate on what they wrote.
  - 4. Repeat this activity by having students write a second fact they know.

*\*Note: This could be posted in a discussion board to account for a virtual setting.*

Explore: (Suggested for Day 1/a portion of Day 2)

- Read the book, *Fantastic Farm Machines*, by Cris Peterson (this can be done as a class or individually).

*\*Note: This activity could be an individual activity to account for a virtual setting.*

  - Ask students to:
    - Record what they learn from the book



- Divide students into pairs or groups
- Assign each pair/group one of the following inventions from the book
  - Grain Drill (Inventor: Jethro Tull)
  - Irrigation Pivot (Inventor: Frank Zybach)
  - First gas-powered tractor (Inventor: John Froelich)
  - The original steel plow (Inventor: John Deere)
  - Corn Planter (Inventor: Henry Blair)
  - Combine
    - Hiram Moore invented the first combine; however, Cyrus McCormick is credited for the invention. McCormick took Moore's invention and improved upon it to further advance the combine. McCormick also developed McCormick Harvesting Machine Co., which eventually became International Harvester Company. *\*NOTE: Encourage students to think about the value/significance of a patent, properly crediting inventions, etc.*
- Using devices, have pairs/groups research and investigate who invented their assigned invention. *\*Note: This activity could be an individual activity to account for a virtual setting.*

Explain: (Suggested for Day 2/a portion of Day 3)

- Have each group/pair (or select several groups/pairs) teach their fellow classmates about the inventor/invention they researched.
  - Ask students to include the following information (and more!) in their short presentation to the class. If they cannot find information about the below questions, ask students to note that in the presentation. The information in the presentation should be shared in their own words.
    - Who was the inventor/invention?
    - When was the item invented?
    - How did the inventor get the idea?
    - How did the invention help advance agriculture, economics, life in a particular region, etc.? (Reference the video again to help students think about how the combine used in the video helps feed people.)
    - What did the pair/group learn that they did not know before?



Elaborate: (Suggested for Day 3/a portion of Day 4)

*\*NOTE: This activity is meant to spark creativity and encourage students to think like an inventor.*

*Encourage students to HAVE FUN!*

**Be an Inventor for a Day**

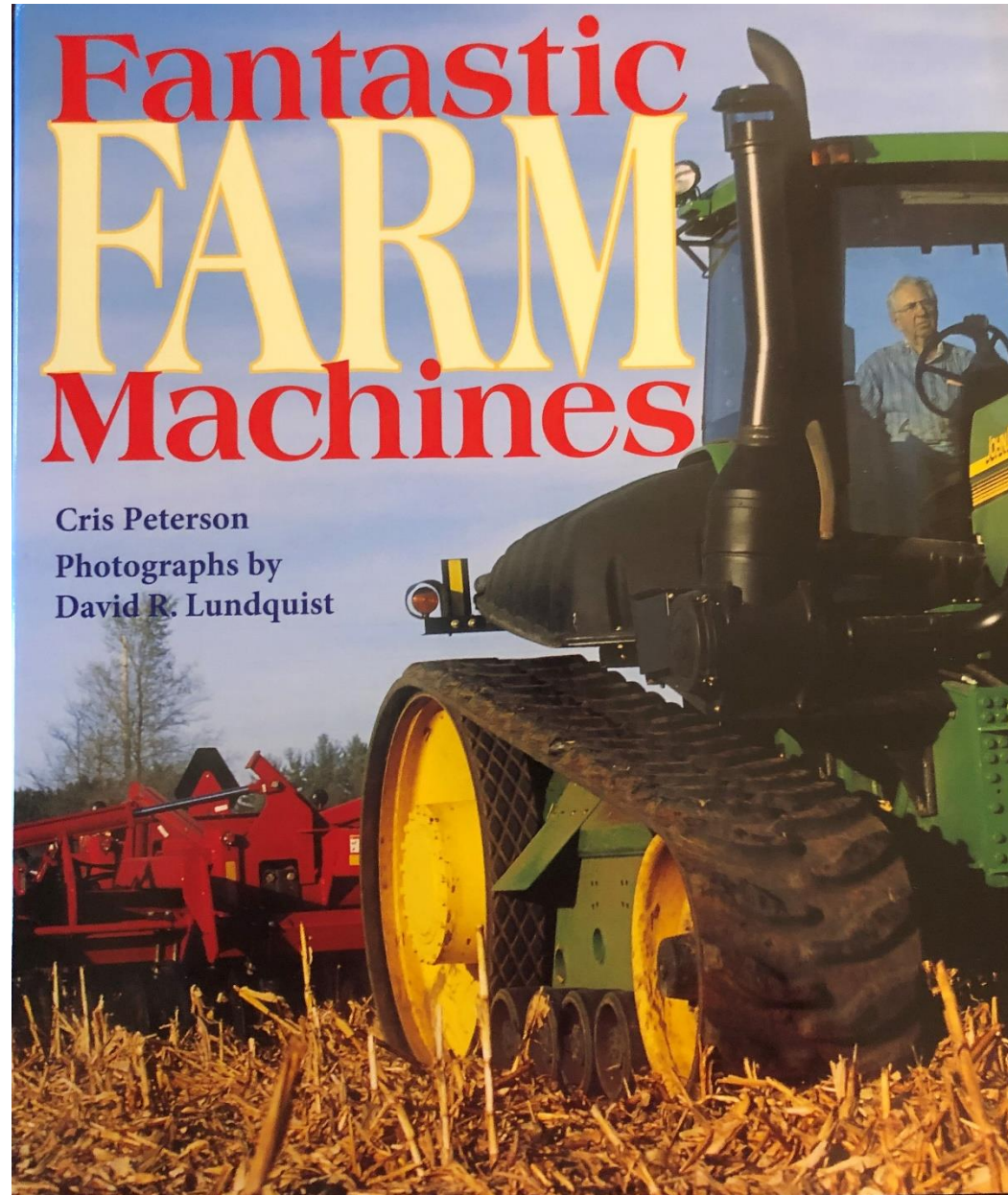
- After students learn about the various inventions/inventors, have each pair/group brainstorm about something that they think would help themselves or others do something better or that they cannot currently do with previously invented items. Students should develop a plan for their own invention to include the following.
  - Write a paragraph or two that states:
    - Why it is important to the students to invent their item?
    - Is the invention needed for the geographical area they live in?
    - How is it different from items currently in existence?
  - A detailed plan of how the idea will be executed into development
  - Draw or build (using simple items such as toothpicks) a rendering of what the invention will look like.
    - Include labeling and other details

Evaluate: (Suggested for Day 4/5)

- Once the “Be an Inventor for a Day” project is completed, have each pair/group present to the class. Classmates should take notes and ask questions after each pair/group presents.
  - During the presentation, each pair/group should act as if they are presenting to a group of investors or potential customers. They want to inform and sell their product.
    - Briefly explain to students how an organized presentation should be outlined and executed.
  - The audience should ask questions that challenge the presenting pair/group to think with an innovative mindset.
- Once all pairs/groups present, have each student independently journal about what they learned about inventors and inventions, why inventors are important to advancement, the importance of innovative thinking, important points to think about during the inventing process, etc.



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## “Be an Inventor for a Day” Grading Rubric

Student Name: \_\_\_\_\_ Pair/Group: \_\_\_\_\_

<b>Grading Category</b>	<b>Considerations</b>	<b>Comments</b>	<b>Score</b>
<b>Creativity</b> (based on group outcome)	Is the idea/invention original? If not fully original, is the idea innovative in how it will improve something that is already available? Is there a clear level of creativity?		_____/25
<b>Critical Thinking</b> (based on group outcome)	To what extent is critical thinking apparent? Does student work show deep, organized thinking?		_____/25
<b>Group Collaboration</b> (based on individual student's contribution to the pair/group)	Did the individual student work well with the group to produce an outcome? Did the student adequately contribute?		_____/15
<b>Presentation</b> (based on a combination of individual and group)	Did the pair/group adequately explain the invention? Did they sell the invention to the audience? Did the student participate and contribute to the presentation?		_____/20
<b>Journal</b> (based on individual student's journal)	Does the student's journal demonstrate understanding of the lesson and content? Did the student answer all questions that were asked?		_____/15
			Total Score: _____