Keeping our Bodies Healthy-My Plate

Skills: ELA, Math, Science and Health, K-5

Objective: Students will explore concepts of nutrition. Topics will range from different processing and packaging methods, grocery store ads and math, learning about My Plate, what nutrients our bodies need to stay healthy and examining the elements of a healthy meal.

Background: Childhood obesity has more than doubled in children and quadrupled in adolescents in the past 30 years. Obese youth are more likely to have risk factors for cardiovascular disease, prediabetes, bone and joint health and sleep apnea. In the long run, children who are obese are more likely to be obese as adults, have an increased rate of stroke, cancer, heart disease and type 2 diabetes.

CDC- Childhood Obesity Facts

Materials and Hand-outs:

- Five Food Groups (Attachment #01)
- Grocery Store Ads
- Measuring Up (Attachment #02)
- Fruit and Veggies on MyPlate (Attachment#03)
- Food Group Poem and Puzzle Cards (Attachment #04)
- Empty, clean, food containers, 5 grocery sacks, tape to mark floor or classroom
- Portion Size Guide, MyPlate Guide (Attachments #05, #06)
- Various items to show portion sizes, deck of cards, ping pong ball, tennis ball etc. in a bag you cannot see through.
- Texas Farm Bureau MyPlate Placemats can be used to illustrate the role farmers and ranchers play in providing healthy food. (Attachment #07)

The following lessons were gathered from various sources, such as National Ag in the Classroom, various state's Ag in the Classroom programs, commodity groups and government publications. Every effort has been made to cite sources. Where appropriate, a subscription has been purchased. Materials for educational use only.

TEKS

English /Language Arts

Kinder-14B

1st grade- 8, 17A-E, 18B

2nd grade-17A-E, 18B, 20

3rd grade-17A-E, 18B, 20A, 21

4th grade-15A-E, 16B, 18A, 19

5th grade-15A-E, 16B, 18A,19

Math

First Grade-1A

2nd grade-1A, 2A, 4BCD,5B

3rd grade-1A, 2A, 4AB,

4th-1A

5th-1A, 2C

Health

Kinder-1B, 3B

1st grade-1A

2nd grade-1CDG

3rd grade-1CD

4th grade-1A

5th grade-1BC

Science

Kinder-10ABD

1st grade-10B





The Five Food Groups

The following is an at-a-glance chart of foods that belong to each food group. It is not a complete list. For more information on each food group, visit: http://www.choosemyplate.gov/food-groups/

FOOD GROUP

FOODS IN THE FOOD GROUP

FRUITS

Any fruit or 100% fruit juice counts as part of the Fruit Group. Fruits may be fresh, canned, frozen, or dried; and may be whole, cut-up, or puréed.

Apples
Apricots
Bananas
Cherries
Grapefruit
Grapes
Kiwi fruit
Mangoes
Oranges
Papaya

Oranges
Papaya
Peaches
Pears
Pineapple
Plums

Raisins

BERRIES

Blackberries Blueberries Raspberries Strawberries

MELONS Cantaloupe Honeydew Watermelon

VEGETABLES

Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed. There are five Vegetable Subgroups: Beans and Peas, Dark Green, Red and Orange, Starchy, and Other Vegetables.

BEANS AND PEAS

Black beans
Black-eyed peas
Chickpeas (garbanzo beans)
Lentils
Red beans
Soy beans
Split peas
White beans

DARK-GREEN VEGETABLES

Bok choy Broccoli Collard greens Dark-green leaf lettuce Kale Romaine lettuce Spinach

RED AND ORANGE VEGETABLES

Butternut squash
Carrots
Red/orange bell peppers
Pumpkin
Sweet potatoes
Tomatoes

STARCHY VEGETABLES

Corn Green peas Plantains Potatoes Taro

OTHER VEGETABLES

Asparagus
Avocado
Beets
Cauliflower
Celery
Cucumber
Eggplant
Green beans
Iceberg lettuce
Mushrooms
Radicchio
Sugar snap peas
Yellow bell pepper
Zucchini

The Five Food Groups (continued)

FOOD GROUP

FOODS IN THE FOOD GROUP

GRAINS

Any food made from wheat, rice, oats, cornmeal, barley, or another cereal grain is a grain product. Bread, pasta, oatmeal, breakfast cereals, tortillas, and grits are examples of grain products. Grains are divided into two subgroups:

- Whole Grains contain the entire grain kernel — the bran, germ, and endosperm.
- Refined Grains have been milled, a process that removes the bran and germ. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron, and many B vitamins.

WHOLE GRAINS

Amaranth Bread products made primarily from 100% whole grains (such as whole-wheat breads, buns, rolls, and pitas) **Brown rice** Buckwheat Bulgur Millet Muesli Oatmeal Popcorn Quinoa Rolled oats Whole-grain barley Whole rye Whole-wheat crackers

Whole-wheat pasta

Whole-wheat tortilla

Wild rice

REFINED GRAINS*

Bread products made with refined "white" flour (such as white rolls, buns, pitas, etc.)
Cornbread
Corn tortillas
Couscous
Flour tortillas
Grits
Noodles
Pastas (spaghetti, macaroni)
Pretzels
Some ready-to-eat
breakfast cereals
White rice

* Most of these products are made from refined grains. Some are made from whole grains. Check the ingredients list for the words "whole grain" or "whole wheat" to decide if they are made from a whole grain. Some foods are made from a mixture of whole and refined grains.

DAIRY

All fluid milk products and many foods made from milk are considered part of this food group. Most Dairy Group choices should be fat-free or low-fat. Foods made from milk that retain their calcium content are part of the group.

Foods made from milk that have little to no calcium, such as cream cheese, cream, and butter, are not considered to be in the Dairy Group.
Calcium-fortified soymilk (soy beverage) is also part of the Dairy Group.

Fluid milks (flavored or unflavored)

Lactose-reduced milks
Lactose-free milks

Calcium-fortified soy beverages (soymilk)

CHEESE Cheddar Mozzarella American Cottage cheese **Yogurts**

MILK-BASED DESSERTS

Puddings Ice cream Frozen yogurt Ice milks



The Five Food Groups (continued)

FOOD GROUP

FOODS IN THE FOOD GROUP

PROTEIN FOODS

All foods made from meat, poultry, seafood, beans and peas, eggs, processed soy products, nuts, and seeds are considered part of the **Protein Foods Group.**

Beans and peas are also part of the Vegetable Group.

BEANS AND PEAS

Black beans Black-eyed peas Chickpeas (garbanzo beans) Lentils **Red beans** Soy beans

Split peas

White beans

SEAFOOD Anchovies Catfish Clams Cod Crab Crawfish Flounder Lobster Oysters Salmon **Sardines** Shrimp Squid (Calamari) Tilapia

NUTS AND SEEDS (AND BUTTERS)

Tuna

Almonds Peanuts Pumpkin seeds Sunflower seeds **Walnuts**

PROCESSED SOY PRODUCTS

Tofu **Tempeh Texturized Vegetable** Protein (TVP) "Veggie Burgers"

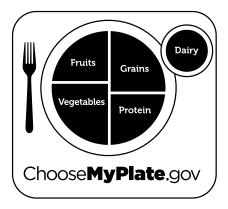
POULTRY

Chicken Duck **Turkey**

EGGS

MEATS (LEAN CUTS AND **GROUND MEATS)**

> Beef Ham Lamb **Pork** Veal



MyPlate

SECOND COURSE • REPRODUCIBLE 2

Name:_____Date:____

Lucia needs your help to eat smart and play hard.
On the chart below, circle foods and drinks for her for 1 day.
On another piece of paper, write a menu for her meals and snacks using the foods you circled. Lucia is a moderately active 9-year-old girl. She needs to eat the following amounts from each food group each day:





Vegetables Fruits 2 cups 1 ½ cu





Protein Foods 5 ounces



Dairy 3 cups

Add up the amounts of foods in each food group your circled food choices provide. Do the meals and snacks you planned give her what she needs for the day?

Note: "oz" is the abbreviation for ounce.

VEGETABLES	FRUITS	GRAINS	PROTEIN	DAIRY
small bowl of romaine lettuce (½ cup)	small orange (¹/² cup)	2 slices whole-wheat bread (2 oz whole grains)	slice of turkey (1 oz)	glass fat-free milk (1 cup)
small bowl spinach (½ cup)	small apple (¹/₂ cup)	5 whole-wheat crackers (1 oz whole grains)	1 hard-boiled egg (1 oz)	2 slices low-fat Swiss cheese (1 cup)
medium baked potato (1 cup)	large banana (1 cup)	$1/_2$ cup cooked brown rice (1 oz whole grains)	½ cup cooked black beans (2 oz)	1.5 oz low-fat shredded cheddar cheese (1 cup)
12 baby carrots (1 cup)	16 grapes (¹/₂ cup)	packet of instant oatmeal (1 oz whole grains)	small hamburger patty (3 oz)	snack-size container low-fat yogurt (¹/² cup)
large sweet potato (1 cup)	mango (1 cup)	3 cups popped popcorn (1 oz whole grains)	small chicken breast half (3 oz)	1 fat-free milk chug (1 cup)
6 - 8 cherry tomatoes (1 cup)	large peach (1 cup)	medium piece of cornbread (2 oz refined grains)	12 almonds (1 oz)	slice low-fat American cheese (¹/₂ cup)
large ear of corn (1 cup)	large plum (¹/₂ cup)	small whole-wheat tortilla (1 oz whole grains)	small salmon patty (3 oz)	small low-fat milk carton (1 cup)
side of cooked collard greens (³ / ₄ cup)	snack container of pineapple (¹/₂ cup)	1 slice white bread (1 oz refined grains)	2 slices ham (2 oz)	
side of cooked lentils (1/2 cup)	small bowl of blueberries (1/2 cup)	1 cup whole-wheat pasta (2 oz whole grains)	3 small turkey meatballs (2 oz)	
4 tablespoons tomato sauce (¹/₄ cup)	glass of 100% fruit juice (1 cup)	1 bowl low-fat granola (1 oz whole grains)	1 cup veggie chili (2 oz)	
TOTAL CUPS:	TOTAL CUPS:	TOTAL OUNCES:	TOTAL OUNCES:	TOTAL CUPS:



Fruits and Veggies on MyPlate

Name:				Date:	
Fruits Grains Dairy				five MyPlate food group nes? (Circle them below).	
Choose MyPlate .gov	Fruit Group	Vegetable Group	Grain Group	Protein Foods Group	Dairy Group

Look at the school lunch menu below and fill in the table by answering the following questions:

1) What is the original ingredient?

For each menu item, list the major ingredient from which it was made. Pizza is a combination food made up of foods from three food groups. Provide answers for each food in the pizza, as well as for the rest of the meal.

- 2) What food group does it belong to?
- 3) Did it come from a plant? Answer "yes" or "no."
- 4) Which edible plant part is it?

Lunch Menu Item	Orig	inal Ingredient	Food Group	Does It Come From a Plant? (yes/no)	Edible Plant Part
86 50	a. Crust (example)	Wheat Flour	Grain Group	Yes	Seed
WHOLE-WHEAT	b. Tomato Sauce				
CHEESE PIZZA	c. Cheese				
BAKED SWEET POTATO FRIES					
BOWL OF BROCCOLI					
APPLESAUCE					
FAT-FREE MILK					

5) What fruits and vegetables are on this menu? List them:	



Cinquain Poem Favorite Foods

Noun
2 adjectives
3 words that describe action
4 word phrase
Synonym

Dessert

Cold, Creamy

Slurp, Giggle, Dribble

Cone with Three Scoops

Ice Cream

Vegetables

Broccoli Carrots Squash Greens Cauliflower

Potassium Fiber Folic Acid Vitamins A, E, and C Reduce the risk of chronic disease and help maintain healthy blood pressure.

Cheddar Dairy Cottage Cheese Milk Yogurt Helps build strong bones and teeth. **Provides** Calcium nutrients while **Protein** keeping saturated fat Vitamin D **Potassium** and cholesterol intake low.

Meat Protein **Poultry** Fish Beans Eggs Helps build bones, muscles, Protein cartilage, skin, and blood **B Vitamins** Vitamin E Iron, Zinc, Magnesium

Grains Cereal Pasta Popcorn Whole Grain Bread Reduce risk of heart disease and other Fiber chronic **B Vitamins** diseases. Minerals

Apples Fruits **Oranges** Kiwi Grapes Bananas Provides fiber, helps reduce risk of chronic Potassium disease, and Fiber helps in healing Folic Acid Vitamin C process.

My Plate

Nutrition is important for any age group, from infant to the elderly. As our bodies age, it requires different nutrients for developmental aspects. The current dietary guideline is called MyPlate. An at-a-glance chart of foods that belong to each food group can be found at http://l.usa.gov/1LZOU3y. (Attachment#01) MyPlate has divided up what our bodies need into five different categories:

- Fruits
- Vegetables
- Grains
- Dairy
- Protein

The amount needed in each food group depends on a person's daily caloric needs, age, sex and level of physical activity. By eating the correct portion in each food group and exercising, our bodies can stay healthy and live productive lives. Remember, the three keys to healthy eating are:

- Balance- eating the correct number of servings from each food group
- Variety- picking different foods within each food group
- Moderation- being careful not to eat too much of any one food



Remember, Texas Farmers and Ranchers provide us with an abundance of healthy foods that MyPlate recommends. Some of those are:

Fruit Group

-Fruit can be fresh, canned, frozen or dried

Nutrients

- Vitamin C
 - o Growth and repair of body tissue
 - o Heals cuts and wounds
 - Keeps gums and teeth healthy
- Potassium
 - Helps heart pump blood in body

Vegetable Group

Five categories

- Dark green
- Starchy
- Red and orange
- Beans and peas
- Other

Nutrients

- Vitamin A
 - Keeps eyes and skin healthy
 - o Protects against infections
- Vitamin C
 - o Growth and repair of body tissue
 - o Heals cuts and wounds
 - Keeps gums and teeth healthy
- Iron
 - o Helps carry oxygen in the blood

Grains

-Foods made from wheat, rice, oats, cornmeal or barley such as bread, pasta, oatmeal, cereal, tortillas and grits

Whole Grains have extra nutrients and are made with the germ, endosperm and bran. White flour is made with only the germ and endosperm.

Nutrients

- Vitamin B
 - Makes your body work
 - o Releases energy that's in food
- Iron
 - Helps carry oxygen in the blood

Dairy

-Milk, yogurt, cheese

Nutrients

- Calcium
 - o Builds strong bones and teeth
- Vitamin D
 - Bone health
- Potassium
 - Helps heart pump blood in the body
- Protein
 - Gives us energy
 - Builds muscle, skin and bone

Protein

-Beef, pork, chicken, turkey, seafood, beans, eggs and nuts

Nutrients

- Protein
 - Gives us energy
 - o Builds muscle, skin and bone
- Iron
 - o Helps carry oxygen in the blood
- Zinc
 - Creates a healthy immune system
- Vitamin B
 - Brain health
 - Gives bodies energy

Calories are a way to measure food energy, which keeps our bodies energized throughout the day. An abundance of calories can lead to weight gain if you aren't careful. The number of calories you need depend on a number of factors such as age, sex, weight and physical activity level. In general, daily caloric intake should be:

- 1,600 calories for most women and older adults
- 2,200 calories for kids, teens girls, active women and most men
- 2,800 calories for teen boys and active men

One way that you can count your calories is by monitoring your serving sizes.

Know Your Serving Sizes

Recommended Daily Servings based on 2,000 calories a day:

Fruits & Veggies: 7-10 servings per day

Apple = Baseball - 1 fruit or veggie

Can of Fruit = 1 Handful - 1/2 cup canned fruit

Salad = 2 Handfuls - 1 cup of salad

Grains: 5-7 servings per day

Pasta = 1 Handful - 1/2 cup of pasta or cereal

Slice of Bread = CD Case - 1 slice of whole wheat bread

Bowl of Cereal = Baseball - 1 cup whole wheat flakes

Protein: 2-3 servings per day

Chicken Breast or steak = Deck of Cards or palm of hand

2 small eggs or 1 large egg

Beans = 1 Handful - 1/2 cup cooked beans

Dairy: 2-3 servings per day

Yogurt Cup = Fist - 3/4 cup of yogurt

Cheese Cubes = 4 Dice - 1 ounce of cheese

Cup of Milk = Tennis ball - 1 cup of milk

Activities

A. Grocery Store Ads

- 1. Collect store ads and have students categorize the food items in the ad to their correct food groups.
- 2. Have students "cook" their perfect meal with the ads and write why it would be healthy. Have students calculate the cost of the meal.
- 3. Cut up the ads into food groups and preform relay races to see which group can place the ads into the correct groups the fastest.

B. Five Senses

1. Have your students use descriptive words about their five senses to convince someone reading their paper that a certain food tastes good.

C. Healthy Lunch Worksheet

- 1. This worksheet requires students to circle what a girl needs for her healthy lunch. Students also add up the nutrients she will receive from the lunch.
- 2. Worksheet found at http://l.usa.gov/1P7S0a9 (Attachment #02)

D. Fruits and Veggies on My Plate

- 1. Students break down a food item such as cheese pizza. Students list what the item is made of, what food groups it consists of, if it comes from a plant and which part of the plant.
- 2. Worksheet found at http://l.usa.gov/1M3pKVg (Attachment #03)

- E. Food Group Puzzle and Poem- Adapted from National Ag in the Classroom
 - 1. Print one set of the Food Group Puzzle Pieces per group of students. Cut out the puzzle pieces.

https://naitc-api.usu.edu/media/uploads/2015/06/24/Food Group Poem and Puzzle Pieces.pdf (Attachment #04)

- 2. Distribute one set to each team. Instruct teams to complete the puzzle which contains food groups, examples of the food group, nutrients and health benefits from the food group.
- 3. Students can also complete the puzzle online by searching Jigsaw Planet Food Group Puzzle.

F. Poems

- 1. Create a poem about their favorite food item or meal.
- 2. Use the food group it belongs to, the nutrients it contains, why it is good for you and why it is so great.

G. The Healthy Hop 'n Shop- Adapted from Iowa 4-H Development Program Materials

- Empty, cleaned food containers (1 per student)
 - Examples could be boxes, bags or cans without sharp edges or fruits and vegetables from the garden. Students can bring these from home or teacher can supply items.
- 5 grocery sacks
- Item to mark the floor into the MyPlate diagram

Directions

- 1. Have students sit on the floor with the MyPlate diagram
- 2. Explain they are surrounding the grocery store called The Healthy Hop 'n Shop and that the grocery store divides their store into food groups. Your students are grocery store employees.
- 3. Pass out the empty food containers until each student has one food container.
- 4. Go around the circle and ask the students to identify their food and which food group it belongs to.
- 5. Once identified, have them stand up and place it in the correct part of the grocery store. When they place their item say, "I am stocking (product) and it belongs to (food group). They then return to their seat.
- 6. Continue until every student has placed their food items.

H. Portion Size Comparison- Adapted from National Ag in the Classroom

Materials Needed

- 1 large bag that you cannot see through
- Computer mouse
- 7 cotton balls
- Baseball
- Cupcake liner
- Tube of chapstick
- 9-volt battery
- Deck of cards
- Ping pong ball
- Tennis ball
- Fist (your fist will be the demonstration)
- Postage stamp
- Film canister
- Amount you can hold in one hand (form a cup in your hand as demonstration)

Directions

- 1. Discuss proper serving sizes with students and how to compare them to common objects.
- 2. Hand out "Portion Size Guide" to students. (Attachment #05)
- 3. Using the materials section, have one student at a time pull one item out of a bag. Students then will fill the correct portion of the worksheet by using the item pulled out of the bag.

Name	Date	•

Portion Size Guide

Directions: Complete the chart by filling in the correct food group for each food item. The completed chart may be used as a guide to help you understand proper portion sizes.

Food Item	Food Group	Measurement	Comparison
Chopped			
vegetables		½ cup	Computer mouse
Fresh fruit		½ cup	7 cotton balls
Raw, leafy			
vegetables		1 cup	A baseball
Cooked rice or			
pasta		½ cup	Cup cake liner
			Tube of
String cheese		2 oz.	chapstick or
Hard cheese		1 ½ oz.	A 9-volt battery
			A deck of playing
Meat		2-3	cards
Salad dressing		2 T.	A ping pong ball
Milk or Yogurt		1 cup	A tennis ball
Apple or peach		1 medium	A tennis ball
Ice cream		½ cup	A tennis ball
Broccoli or			
mashed potatoes		1 cup	A fist
Butter		1 t.	A postage stamp
			Amount you can
Nuts		1 oz.	hold in one hand
Peanut butter		2 T.	A film canister

TEXAS Farmers Ranchers Ranchers HILL Plate

* Texas farmers and ranchers provide us with an abundance of healthy foods that MyPlate recommends.



GRAINS

Farmers grow fields of grains like wheat, rice, oats, cornmeal and barley that can be made into foods like:



Bread



Oatmeal



Grains give us energy and fiber.



VEGETABLES

Vegetable farmers provide us with a variety of healthy foods from their gardens & fields like:



Lettuce



Carrots



Broccoli

Vegetables are rich in vitamins A, E and C.



FRUITS

Some farmers care for orchards and vineyards where fruits are grown. They grow fruits like:



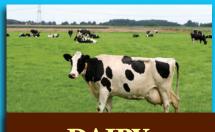
Apples



Grapes



Fruits are high in potassium, fiber and vitamin C.



DAIRY

Farmers can also own a dairy. Dairy cows are cared for & milked to give us the foods we find in the dairy group:



Milk



Ice Cream



Cheese

Foods in the dairy group have calcium and vitamin D.



PROTEIN

Some farmers produce cattle, poultry, catfish & even beans. In the protein group, you will find food like:



Hamburgers



Fish

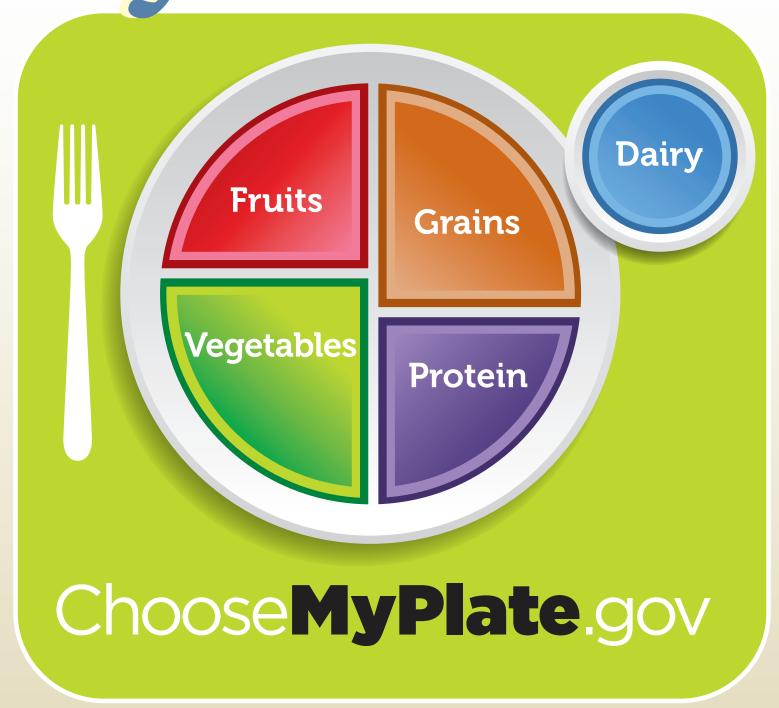
Beans



The protein group is high in protein and iron.

Texas Farm Bureau Graphic * Source: North Carolina Farm Bureau

Mate What It all Means



Ten tips to a great plate.

- * Balance calories
- * Enjoy your food, but eat less
- ***** Avoid oversized portions
- * Foods to eat more often
 - * Fruits, vegetables, grain and fat-free or low-fat milk
- * Make half of your plate fruits and vegetables
- * Drink fat-free or low-fat (1%) milk
- * Make half of your grains whole grains
- * Foods to eat less often include:
 - * Cakes, cookies, ice cream, candies, sweetened drinks, etc.
- * Compare sodium in foods
 - **Choose lower sodium foods**
- * Drink water instead of sugary drinks