

LESSON 1



A Date with MyPlate

The Importance of Food Safety

Concept

Eating a variety of Foods from each of the MyPlate food groups is important for good health. This lesson introduces the four core food safety practices and why it is important to make sure that our food is safe to eat.

Background

Foodborne illness is a disease that is caused by a harmful substance or pathogen present on food (1). Every year, these illnesses affect tens of millions of Americans and kill thousands (2). Following the four core food safety practices is an easy way to prevent foodborne illness.

CLEAN (3)

Wash your hands with soap and warm water for at least 20 seconds. This is about as long as it takes to sing Happy Birthday twice. You should wash your hands before eating or preparing food, after touching your skin or hair, after handling raw meat or poultry, after going to the bathroom, and after sneezing and coughing.

Wash kitchen surfaces and utensils. Bacteria that cause foodborne illnesses are often present on foods and kitchen surfaces. Keeping these things clean will help to ensure that your food is not contaminated.

Wash produce. Bacteria can be present on the surface of fresh fruits and vegetables. Any produce not labeled as “pre-washed” should be washed before consuming, even if you plan on peeling it. Bagged produce that is marked as “pre-washed” is safe to use as purchased. You should not wash meat or eggs because this can lead to contamination of sinks and other kitchen surfaces.

CHILL (4)

Chill perishable foods within one hour. Cold temperatures reduce the rate of bacterial growth. Refrigerators and freezers should be cooled to 32°F and 0°F, respectively. Above these temperatures is considered a “danger zone” where bacteria can grow and cause illness.

Thaw foods properly. Bacteria can grow very quickly at room temperature. To thaw foods safely, thaw them in the refrigerator overnight, in cold water that is changed every 30 minutes, or in your microwave using the “defrost” setting.

Do not keep foods past their recommended storage times. Recommended storage times can be found at <http://www.foodsafety.gov/keep/charts/storagetimes.html>.

COOK (5)

Use a food thermometer. Foods should always be cooked to at least their minimum cooking temperature (see Table 1 below). A food thermometer should be inserted at the thickest part of the food.

After cooking, keep foods above 140°F. This will prevent bacteria from thriving.

TABLE 1 MINIMUM COOKING TEMPERATURES (6)

Food	Temperature (°F)
Ground meat (beef and pork)	160°
Ground meat (turkey and chicken)	165°
Steaks, roasts, lamb, and chops	145°
Chicken and turkey	165°
Egg dishes	160° (egg dishes) or until yolks and whites are firm (whole eggs)
Leftovers and casseroles	165°
Seafood	145° (finfish) or until flesh is opaque (shellfish)

SEPARATE (7)

Use separate kitchen tools. Meat, poultry, seafood, and eggs should be kept separate from produce and each other to avoid cross contamination.

Separate cooked from raw foods.

Separate foods at the grocery store. Foods should be separated in the grocery cart and in plastic bags.

Use separate cutting boards for meats and produce.

CAUSES

Foodborne illness is caused by bacteria and other microorganisms (1). Bacteria are single celled organisms that survive well on and in our bodies and food, especially at room temperature. Bacteria that cause foodborne illnesses (like Salmonella, Listeria monocytogenes, Clostridium perfringens, Campylobacter, and E. coli (8)) do not grow as well in extreme temperatures, or when in contact with antibacterial soaps and cleaners. Compounds in antibacterial soaps and household cleaners are specifically designed to kill bacteria or inhibit their growth. The susceptibility of bacteria to cleaners and extreme temperatures, as well as their ability to transfer between surfaces, is the basis for the four core food safety practices.

RESOURCES

1. Partnership for Food Safety Education. Food Safety Glossary. Available at: <http://www.fightbac.org/>



about-foodborne-illness/food-safety-glossary. Accessed July 14, 2014.

2. Center for Disease Control. Food Safety. Available at: <http://www.cdc.gov/foodsafety/>. Accessed July 14, 2014.
3. FoodSafety.gov. Clean. Available at: <http://www.food-safety.gov/keep/basics/clean/>. Accessed July 14, 2014.
4. FoodSafety.gov. Chill. <http://www.foodsafety.gov/keep/basics/chill/>. Accessed July 14, 2014.
5. FoodSafety.gov. Cook. Available at: <http://www.food-safety.gov/keep/basics/cook/>. Accessed July 14, 2014.
6. FoodSafety.gov. Safe Minimum Cooking Temperatures. Available at: <http://www.foodsafety.gov/keep/charts/mintemp.html>. Accessed July 14, 2014.
7. FoodSafety.gov. Separate. Available at: <http://www.foodsafety.gov/keep/basics/separate/>. Accessed July 14, 2014.
8. Partnership for Food Safety Education. Least Wanted Pathogens. Available at: <http://www.fightbac.org/about-foodborne-illness/least-wanted-pathogens>. Accessed July 14, 2014.

5th Grade Lesson

LEARNING OBJECTIVES

The students will:

- state the names and colors of the different food groups on MyPlate.
- identify foods from each of the food groups.

BEHAVIORAL OBJECTIVE

The students will:

- eat a variety of food from the different food groups.

RECOMMENDED BOOK

Spriggles Activity and Exercise by Jeff and Martha Gottlieb.

FLORIDA STANDARDS

HEALTH EDUCATION:

HE.1.C.1.1.: The student will identify healthy behaviors.

HE.1.B.3.2.: The student will identify healthy options to health-related issues or problems.

HE.1.P.1.1.: The student will demonstrate good personal health habits.

HE.2.C.1.1.: The student will describe personal health.

HE.2.B.1.3.L The student will apply listening skills that enhance health.

HE.2.B.4.1.: The student will establish a short-term personal health goal as a class and take action toward achieving the goal.

HE.2.P.1.1.: The student will demonstrate health behaviors to maintain or improve personal health.

READING/LANGUAGE ARTS:

LA.1.5.2.1.: The student will listen attentively and understand directions for performing tasks (e.g., multi-step oral directions), solving problems, and following rules.

LA.2.4.3.1.: The student will draw a picture and use simple text to explain why this item (food, pet, person) is important to them.

LA.2.5.1.1.: The student will demonstrate legible printing skills.

(continued on next page)



LA.2.5.2.4.: The student will listen politely to oral presentations by classmates.

VISUAL ARTS:

VA.1.S.1.3.: The student will create works of art to tell a personal story.

VA. 2.C.2.1.: The student will use appropriate decision-making skills to meet intended artistic objectives.

VA.2.O.2.1.: The student will use personal experience to convey meaning or purpose in creating artworks.

PHYSICAL EDUCATION:

PE.1.L.1.5.: The student will identify the health benefits of physical activity.



Learning Activity: Fight Germs with the Core Practices

PRIOR TO ACTIVITY

Print enough copies of the Food Safety information handout and the Help Ben and Shandra Practice Food Safety Story for each student.

ACTIVITY INTRODUCTION

Raise your hand if you remember the names of each of the MyPlate food groups. Call on students. The answers are the Grains, Vegetables, Fruits, Protein Foods, and Dairy groups. Point to the MyPlate poster as you review the groups. Great job! Eating foods from each of the five MyPlate food groups every day is a great way to make sure you are healthy, but it's also important to make sure that all of your foods are safe to eat and will not make you sick. That's why we are going to talk about food safety today. Do any of you do anything at home to make sure your food is safe? Allow students to answer. Answers may include washing hands; using the refrigerator or using an ice pack to keep cold foods cold; using a thermometer to make sure that foods are cooked to their minimum safe cooking temperature; or separating foods. *Those are all great ways to keep your food safe. There are four food safety practices that we can use to make sure our food is safe. Today, we are going to read to learn about these four food safety practices: clean; cook; chill; and separate.* Distribute the Food Safety Information handout to the students. Call on students to read sections of this handout. Point out the charts on the back side of the handout. *Who would like to explain one of the core food safety practices?* Allow students to answer and clarify points as needed. Call on a different student to explain each of the food safety practices. As students mention each food safety practice, put the food safety practices cards on the board with magnets or sticky tack. Discussion of food safety practices should include why each food safety practice stops bacteria from making people sick.

ACTIVITY DIRECTIONS:

1. *Now that you understand some of the basic food safety practices, we are going to read a story about two children, Ben and Shandra, and how they followed the four basic principles of food safety to keep a germ named Klaus from making them sick. As we read the story, please write your answers to the food safety questions on your worksheet.*
2. Distribute one copy of the Help Ben and Shandra Practice Food Safety Story to each student. Call on students to read one paragraph of the story at a time. Next, read the questions that follow the paragraph, one at a time, and call on students to answer the questions.
3. *Oh no! Ben and Shandra are running late for school, but they need to eat breakfast first so they can concentrate during class. Their mom left whole grain cereal and low-fat milk on the table for them, and Klaus, a nasty bacterium, has spotted the milk. He knows that once the milk warms up it will be the perfect place for him to grow.*

MATERIALS:

- Food Safety Information handout, provided
- Help Ben and Shandra Practice Food Safety Story, provided
- Pencils
- MyPlate poster
-

4. *Which food safety practice could Ben and Shandra use to stop Klaus?*

Students should say CHILL. *Why does this food safety practice help prevent Klaus from growing?* Students should say that bacteria cannot grow as well when temperatures are too high or low.

5. *Just as the milk is getting to the right temperature for Klaus, Shandra puts it in the refrigerator. She's made it just in time to stop him! Klaus sulks away and waits for another opportunity. He thinks he might be able to sneak into Shandra's or Ben's lunchbox, but they both put ice packs inside. Klaus knows that he will not be able to grow there because it will be too cold. He decides to wait on their hands instead.*

6. *Where did Klaus decide to wait?* Students should say hands. *What should Ben and Shandra do to stop him?* Students should say that they should wash their hands. *Which food safety practice is it?* Students should say CLEAN.

7. *Shandra and Ben go to lunch after their history lesson. Today they learned about a famous battle, so they want to make sure they win the battle over bacteria while they are eating their lunch. They are off to a great start because they put ice packs in their lunchboxes. Before sitting down to eat, they make sure to wash their hands for 20 seconds with soap and warm water. Klaus screams as he gets washed off their hands. But wait, he spots another chance – the dirty lunch table where Shandra and Ben are headed. He is very comfortable there and sees some of his bacteria friends, too! Just as he climbs onto the outside of Shandra's lunchbox, he sees a cleaning cloth wipe away his friends. Klaus just barely made it!*


8. *Why does cleaning, like when you wash your hands, keep Klaus from growing?* Students should mention that ingredients in soaps and cleaners either kill bacteria or slow their growth. Rinsing their hands in water helps to remove bacteria from their hands.

9. *After school, Ben and Shandra go to basketball practice. To celebrate Shandra's threepoint shot, the family decides to make a healthy dinner. They go to the grocery store to pick up chicken, whole-wheat rolls, broccoli, and tomatoes. Klaus managed to hitch a ride on their hands after lunch and during basketball practice, and now he has a grand plan. As Shandra and Ben pick out the ripest tomatoes, Klaus spreads himself on the surface of the tomatoes. He figures he'll have a great chance to infect the chicken too because the chicken juices are likely to leak when they are in the same grocery bag.*

10. *Which food safety practice should Ben and Shandra use to stop Klaus?* Students should say SEPARATE. *What should they do to use this food safety practice?* Students should say that they should keep their produce and chicken separate from each other and in different grocery bags.

11. *But, alas, Ben places the chicken in a different bag from the produce and bread. Klaus is very upset, but he doesn't lose hope. After all, the drive back home might provide just enough time for the groceries to warm up and let him grow inside.*

12. *There is a food safety problem at this point in the story. What should Shandra and Ben do to stop Klaus, and any of his friends that may be in or on the food*



they purchased, from spreading? Discuss what can happen if cold foods sit out too long, which could happen if it takes them awhile to get home and put the groceries away. *Which principle do they need to follow and in what time frame does it need to be done?* Another potential solution is to bring a cooler and ice packs in the car when you go grocery shopping and to put the groceries away within an hour. The students should realize that waiting too long can make the groceries warm enough to allow Klaus and other bacteria to spread.

13. *Shandra and Ben are excited to help their mom make Shandra's special dinner. After putting all of the groceries away, they wash their hands and start preparing dinner. They are making marinated baked chicken, broccoli with Parmesan cheese, a salad with fresh tomatoes, and whole wheat rolls. They are having strawberries for dessert because they are Shandra's favorite fruit! Ben washes the ingredients for the salad, as well as the strawberries and broccoli. While Shandra cuts the chicken, Ben cuts the vegetables and the strawberries. While they work, Klaus sits by waiting for a chance to strike.*
14. *Which food safety practices should Ben and Shandra use to keep Klaus away?* Discuss the situation with students until they realize that the practices are SEPARATE and CLEAN. Ben and Shandra should wash their hands before starting and make sure they use different cutting boards and tools for meat and produce and that all of their equipment is clean. They should NOT use the same cutting boards and tools for the produce and the raw chicken; rather, they should use separate cutting boards and tools. They should wash their tools and hands frequently, and Ben should wash the lettuce, tomatoes, broccoli and strawberries before cutting them.
15. *While Shandra cuts the chicken, Ben uses a different cutting board for the vegetables and the strawberries. Ben and Shandra learned that you should not use the same cutting board for meat as you use for fruits and vegetables, so they are always careful to select the right cutting board for their tasks. Klaus is amazed by how smart they are about food safety.*
16. *Do you agree with Klaus?* Are Ben and Shandra smart about food safety? The students should say yes! Ben and Shandra have done remembered to clean, chill and separate.
17. *Now that Ben and Shandra have prepped all of the ingredients and kept them SEPARATE and CLEAN, it's time for mom to put the chicken in the oven. She lays the chicken in a pan and cooks it in the oven. She knows how long she needs to cook the chicken to make sure Klaus and his friends are gone, but to be sure, she will check the food before she serves it to her family.*
18. *What should Ben and Shandra's mom do to make sure that Klaus is gone for good?* Students should say use a food thermometer. That's right. Shandra and Ben's mom should use a food thermometer. She should insert the thermometer into the thickest part of the chicken. The chicken should be cooked to at least the minimum cooking temperature recommended for chicken. Based on the reading passage we did earlier, what temperature should register on the thermometer? The students should say 165°F. Which food safety practice is being used? Students should say COOK.



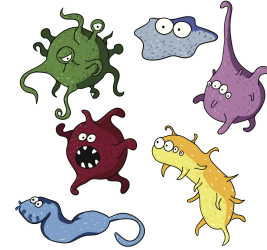
19. *You did a wonderful job helping Ben and Shandra keep Klaus away for good! He didn't get a chance to make them sick. Who can tell us the four food safety practices you should use at home to help prevent getting sick from bacteria that may be present in or on food? Can anyone review what food safety practices they used? Call on a student to say CLEAN, COOK, CHILL, and SEPARATE. That's great! Now, I think you are ready to play a fun game that will put your knowledge of food safety to work.*

Food Safety Information

Sometimes, people get sick from the food they eat. This is because the food has not been handled properly. The good news is that there are ways to avoid getting sick from food. All you need to do is follow the four food safety practices! Food safety practices are ways to reduce your contact with **bacteria** and **pathogens** that can cause **foodborne illness**. The four core food safety practices are clean, cook, chill, and separate.

Clean

- Wash your hands.
- Wash kitchen tools and surfaces.
- Wash fruits and vegetables.



Cook

- Use a food thermometer to cook foods to at least their **minimum cooking temperature** (see back of this page).
- Keep foods above 140°F after cooking.



Chill

- Refrigerate cold foods within one hour.
- Thaw foods in the refrigerator, cold water, or in the microwave on the defrost setting.
- Put leftovers away quickly.

Separate

- Use separate kitchen tools.
- Separate cooked from raw foods.
- Store foods correctly (see back of this page).



Bacteria don't like extreme temperatures. If it is too hot or cold they cannot grow well. The food safety practices, "cook" and "chill" are based on this fact. Cooking foods to their minimum cooking temperature and refrigerating foods stops pathogens in their tracks! This keeps you from getting sick.

Soaps have ingredients in them that stop bacteria in their tracks. These ingredients either kill bacteria or stop them from growing. That is why "clean" is a food safety practice.

Finally, pathogens on one food item can move to another. That is why "separate" is the last core food safety practice. Meat, poultry, fish, eggs, and produce all need to be separated. Separate (different) cutting boards should be used for these foods as well.

GLOSSARY

Bacteria: Very small living organisms. Bacteria can live almost anywhere, and some types of bacteria that grow on food can cause illness.

Pathogen: Any small organism that can cause illness.

Foodborne illness: Disease that is caused by pathogens on food.

Minimum cooking temperature: The lowest temperature that can safely kill bacteria present on certain types of food.

Minimum Cooking Temperatures

Food	Temperature (°F)
Ground meat (beef and pork)	160
Ground meat (turkey and chicken)	165
Steaks, roasts, lamb, and chops	145
Chicken and turkey	165
Egg dishes	160 (egg dishes) or until yolks and whites are firm (whole eggs)
Leftovers and casseroles	165
Seafood	145 (finfish) or until flesh is opaque (shellfish)

Proper Food Storage

Top Shelf	Packaged foods, condiments, and dairy
Bottom Shelf	Fish, poultry, and meat (in sealed containers)
Produce Drawers	Fruits and vegetables

The USDA and the University of Florida IFAS Extension are equal opportunity providers and employers. The Supplemental Nutrition Assistance Program (SNAP) provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact 1-866-762-2237. TTY/TTD/FRS dial 711. This material was funded by USDA's Supplemental Nutrition Assistance Program – SNAP.

NAME: _____

Help Ben and Shandra practice food safety!

Oh no! Ben and Shandra are running late for school, but they need to eat breakfast first so they can concentrate during class. Their mom left whole grain cereal and low-fat milk on the table for them, and Klaus, a nasty bacterium, has spotted the milk. He knows that once the milk warms up it will be the perfect place for him to grow.

Which food safety practice could Ben and Shandra use to stop Klaus?

Why does this food safety practice help prevent Klaus from growing?



Just as the milk is getting to the right temperature for Klaus, Shandra puts it in the refrigerator. She's made it just in time to stop him! Klaus sulks away and waits for another opportunity. He thinks he might be able to sneak into Shandra's or Ben's lunchbox, but they both put ice packs inside. Klaus knows that he will not be able to grow there because it will be too cold. He decides to wait on their hands instead.

Where did Klaus decide to wait?

What should Ben and Shandra do to stop him? Which food safety practice is it?

Shandra and Ben go to lunch after their history lesson. Today they learned about a famous battle, so they want to make sure they win the battle over bacteria while they are eating their lunch. They are off to a great start because they put ice packs in their lunchboxes. Before sitting down to eat, they make sure to wash their hands for 20 seconds with soap and warm water. Klaus screams as he gets washed off their hands. But wait, he spots another chance – the dirty lunch table where Shandra and Ben are headed. He is very comfortable there and sees some of his bacteria friends, too! Just as he climbs onto the outside of Shandra's lunchbox, he sees a cleaning cloth wipe away his friends. Klaus just barely made it!

Why does cleaning, like when you wash your hands, stop Klaus from growing?

After school, Ben and Shandra go to basketball practice. To celebrate Shandra's three-point shot, the family decides to make a healthy dinner. They go to the grocery store to pick up chicken, whole-wheat rolls, broccoli, and tomatoes. Klaus managed to hitch a ride on their hands after lunch and during basketball practice, and now he has a grand plan. As Shandra and Ben pick out the ripest tomatoes, Klaus spreads himself on the surface of the tomatoes. He figures he'll have a great chance to infect the chicken too because the chicken juices are likely to leak when they are in the same grocery bag.

Which food safety practice should Ben and Shandra use to stop Klaus?

What should they do to use this food safety practice?

But, alas, Ben places the chicken in a different bag from the produce and bread. Klaus is very upset, but he doesn't lose hope. After all, the drive back home might provide just enough time for the groceries to warm up and let him grow inside.

What should Shandra and Ben do to stop Klaus, and any of his friends that may be in or on the food they purchased, from spreading?

Shandra and Ben are excited to help their mom make Shandra's special dinner. After putting all of the groceries away, they wash their hands and start preparing dinner. They are making marinated baked chicken, broccoli with Parmesan cheese, a salad with fresh tomatoes, and whole wheat rolls. They are having strawberries for dessert because they are Shandra's favorite fruit! Ben washes the ingredients for the salad, as well as the strawberries and broccoli. While Shandra cuts the chicken, Ben cuts the vegetables and the strawberries. While they work, Klaus sits by waiting for a chance to strike.

Which food safety practices should Ben and Shandra use to keep Klaus away?

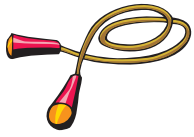


While Shandra cuts the chicken, Ben uses a different cutting board for the vegetables and the strawberries. Ben and Shandra learned that you should not use the same cutting board for meat as you use for fruits and vegetables, so they are always careful to select the right cutting board for their tasks. Klaus is amazed by how smart they are about food safety.

Do you agree with Klaus? Are Ben and Shandra smart about food safety?

Now that Ben and Shandra have prepped all of the ingredients and kept them SEPARATE and CLEAN, it's time for mom to put the chicken in the oven. She lays the chicken in a pan and cooks it in the oven. She knows how long she needs to cook the chicken to make sure Klaus and his friends are gone, but to be sure, she will check the food before she serves it to her family.

What should Ben and Shandra's mom do to make sure that Klaus is gone for good?



Physical Activity: Careful Around Cooties

PRIOR TO ACTIVITY

Print enough food safety practice cards so that each student has a set of four. Cut the cards as shown on the template (can be printed in black and white). If desired, laminate the cards to make it easier to reuse them!

ACTIVITY DIRECTIONS:

1. *The game we are going to play today is called "Careful Around Cooties." Do you know what cooties are? Allow students to answer. Do you like cooties? Allow students to answer. I wouldn't expect you to like them, because cooties are just like Klaus in our story. Today we are going to pretend that cooties are the bacteria on our foods that make us sick, and the floor is covered with them.*
2. *First, I need everyone to stand and space yourselves apart. Each of you will have four food safety practice cards to put on the floor. Each set of cards has a different word written on it – clean, cook, chill or separate. (Distribute the cards to the students.) The cards are places that you can touch to stay safe from the cooties that are all over the floor. Once you have them in front of you, place one foot on one card, and your other foot on a different card. You should try to keep your hands and feet on the cards, not on the floor. Is anyone still touching the floor?*
3. *Now that you are all safe from the cooties, I'll tell you how to play the game. You should see that the cards have the names of the four core food safety practices. I'm going to read some situations that illustrate these practices. You will need to figure out the practice to which it relates. After I read the situation, I will tell you to place your right or left hand or foot on the card that matches the food safety practice situation I just read. So, if I read a food safety situation related to CLEAN, and told you to put your right hand on the card that says "CLEAN", you would put your right hand on that card. Your hand has to stay there until another right hand clue gets called. Sometimes, I may call a clue that is NOT a good food safety practice, like NOT washing your hands before eating a sandwich. If that happens, you should jump very high and yell "GERM!" Then you should go back to standing on your cards. The object of this activity is to keep your hands and feet on the cards and to avoid touching the floor. If this makes sense, raise your hand. Wait for all students to raise their hand; clarify instructions as needed. Ok! Now you will have to stay very balanced during the game, because you don't want to fall and touch any cooties.*
4. *Are you ready to play?! Wait for students answer. Ok! Let's start!*
5. Call out clues in a random order and assign a right or left foot or hand to the students (i.e., "This clue is for your left foot. Suzy made sure to wash her hands before making her peanut butter sandwich). This can be done in any way that will get students balancing and having fun while being active. When students are starting to have a difficult time balancing, or some students are falling over, call out a germ clue. The activity will end when all clues are called out or when time is up.

MATERIALS:

- 4 food safety practice cards for each student (clean, cook, chill, and separate), template provided



CLEAN

- Maria made sure to wash her hands before making her peanut butter and banana sandwich.
- Juan washed his orange before slicing it.
- When Sally was done helping her parents make dinner, she used a cloth to wipe up the kitchen.
- Michael washed his pan when he was done cooking.

COOK

- When making the Thanksgiving turkey, Theo used a food thermometer to make sure it was cooked.
- When serving dinner, Latasha kept the temperature of hot foods above 140°F.
- Phoebe inserted the food thermometer into the thickest part of her steak.
- Jose was excited to eat his leftovers, but he made sure to microwave them to their minimum cooking temperature first!

CHILL

- Ethan put away his cold groceries as soon as he got home from the grocery store!
- Elizabeth put the carton of milk away right after pouring some over her cereal so that it didn't get warm.
- Patrick asked his mom to put an ice pack in his lunch bag.
- Inbar wants tilapia for dinner tomorrow, so she makes sure to thaw it in the refrigerator overnight.

SEPARATE

- Franchesca got two pans out, one for meat and one for vegetables.
- Dwayne made sure to ask the bagger at his grocery store to put his chicken in a different bag.
- Priya put the ground beef she bought on the bottom shelf of the refrigerator, so it wouldn't drip juices onto the green beans.
- Jade put the chicken in the corner of the grocery cart, far from the fruits and veggies.

GERM!

- When cooking dinner, Lakshmi thought, "Oh, that looks cooked enough" even though the chicken was still pink.
- Tyler cut his raw fish fillet on the same cutting board as his broccoli.
- Brianna forgot her ice pack in her lunch, but she thought it would be fine.
- Mohammed went to the bathroom in the middle of lunch, but didn't wash his hands.

SUMMARY

Now that you know all about food safety, who can tell me what you are going to do to make sure your food is safe at home or at school? Allow students to answer. That's great! I hope that you all will make sure to use the four core food safety practices: clean; cook; chill; and separate each time you are making or eating food.



EVALUATION QUESTIONS

1. Chicken should be cooked to AT LEAST what temperature?
 - a. 12°C
 - b. 165°F**
 - c. 100°F
 - d. 200°C
2. Placing chicken on the bottom shelf is an example of which of the following food safety practices _____?
 - a. Clean
 - b. Cook
 - c. Chill
 - d. Separate**

CHILL



CLEAN



COOK



SEPARATE



LESSON 2



Breakfast on the Go

Concept

Foods from the Grains group should make up a large proportion of the diet. Although whole grains provide most of the nutritional benefits, most children do not get the recommended amounts. This lesson will introduce children to the Grains group with a focus on whole grains and fiber. Children will be encouraged to consume more whole grains as part of a healthy diet.



Background

Breakfast is known as the most important meal of the day. This phrase has been validated by years of research investigating the benefits of eating breakfast, which include its role in cognition and school performance, weight management, and nutritional status. Research suggests that the health benefits of eating breakfast on a regular basis accrue over time such that the earlier in life one starts consuming breakfast the greater the benefits (1). Based on data from the 1999–2006 National Health and Nutrition Examination Survey (NHANES), 20% of children and

31.5% of adolescents skip breakfast (2). Since breakfast consumption declines in adolescence (3), it is important to encourage children to begin eating breakfast at an early age. According to focus groups, time and convenience are two major factors important to adolescents when making food choices (4). They often do not eat breakfast because they do not have enough time to prepare it in the morning (4). Many report eating at fast-food restaurants because of their speed and convenience (4). Even when lack of time is not an issue, many prefer to eat foods that can be put in their backpack easily or eaten on the bus (4). Considering the benefits of eating breakfast, this lesson is designed to teach children how to eat breakfast “on the go”, with the ultimate goal of increasing the frequency of consuming a healthy breakfast.

COGNITION AND SCHOOL PERFORMANCE

Although the data are conflicting, most studies have linked breakfast consumption with improved cognition (5). A review of 19 studies identified 11 that showed a positive effect of breakfast on behavior in the classroom (6). Additionally, 21 out of 22 studies showed a positive effect of habitual breakfast consumption on academic performance (6). The exact mechanism for this improvement has not been identified. Researchers have proposed that breakfast is important because it provides the brain with glucose needed for brain activity and the synthesis of neurotransmitters (7, 8). Following an overnight fast, breakfast provides the brain with nutrients to support these functions, which may be why breakfast positively affects cognition. Younger children are affected to a greater extent by the metabolic stress induced by fasting. Consequently, children who skip breakfast may be at a disadvantage with regard to cognitive performance (9).

Mahoney et al. (9) analyzed the effects of different types of breakfast on cognition by investigating the impact of three breakfast regimens (i.e., ready-to-eat cereal with skim milk,

instant oatmeal with skim milk, and no breakfast) on visual perception and memory in 30 children ages 6 to 11. Each participant served as his/her own control, consuming each of the different breakfasts once a week for three weeks. Children who consumed breakfast had improved visual perception and spatial memory compared to those who skipped breakfast, and those who consumed oatmeal performed better on short term memory and auditory tasks compared to those who consumed the ready-to-eat cereal. Oatmeal had an even more positive effect in younger children (six to eight years) than older children. These data support the positive effect of breakfast on cognition and also suggest that the type of breakfast is important.

Wesnes et al. (10) examined the impact of breakfast (i.e., ready-to-eat cereal, glucose drink, or no breakfast) on three measures of cognition (i.e., attention, working memory, and episodic secondary memory) in 29 children between the ages of 9 and 16. Although cognition declined throughout the morning in all groups, compared to the glucose drink or no breakfast, consumption of ready-to-eat cereals reduced this decline by half. Cereal eaters also stayed alert longer, had better memory recall, and had improved mood compared to the other two groups. A study by Cooper, Bandelow, and Nevill (11) also found that adolescents who ate breakfast had better cognitive function and higher self-reported energy and fullness than the students who did not eat breakfast.

Some studies have linked breakfast consumption with higher test scores. Liu et al. (12) found that children who ate breakfast regularly had higher scores on full IQ and verbal IQ tests, even after controlling for gender, socioeconomic status, and parental education and occupation. Similarly, Gajre et al. (13) compared test scores between regular breakfast eaters and nonbreakfast eaters among school children in India. They found that youth who ate breakfast scored significantly higher than those who did not eat breakfast on a memory recall test and on a Letter Cancellation test that requires hand-eye coordination, speed, and sustained attention concentration for five minutes. Breakfast eaters also had significantly higher average scores in science and English, and their overall average score for the year for math, science and English was significantly higher as well.

WEIGHT MANAGEMENT

Childhood obesity is increasing at an alarming rate. The most current data reports that 34.2% of children ages 6 to 11 are either overweight or obese (14). This increase highlights the need for effective strategies designed to improve nutritional



status and promote a healthy body weight for this age group. Research suggests that simply eating breakfast may result in a lower body mass index (BMI) and promote a healthier weight (1). Furthermore, skipping breakfast is a risk factor for childhood overweight and is associated with an increase in adipose tissue (15). Therefore, eating breakfast every day is an important strategy for weight management. Breakfast may control weight by preventing overeating at the next meal and providing energy for physical activity. In fact, 78% of participants in the National Weight Control Registry, which is an ongoing study of individuals who have lost at least 30 pounds and kept it off for over a year, were found to eat breakfast regularly (16).

During adolescence, the frequency of breakfast consumption begins to decline (3).

Adolescents are more independent and make more decisions about eating, which often means skipping breakfast (17). Timlin et al. (3) used surveys to assess the breakfast habits of adolescents ages 13 to 16 for five years as a part of Project EAT (Eating Among Teens). Adolescents who never or only occasionally ate breakfast had significantly higher BMIs than those who ate breakfast daily. The results of this study highlight the importance of teaching children the value of breakfast and how to make breakfast a lifelong practice so they can continue to reap the benefits, such as weight management.

The type of food chosen for breakfast plays a role in weight management. Barton et al. (18) used food records to track the breakfast habits of 9 to 10 year old girls for ten years. The researchers examined ready-to-eat cereal consumption, consumption of non-cereal foods, and breakfast skipping. Girls who consumed cereal for breakfast had significantly lower BMIs than girls who either did not eat cereal or skipped breakfast. The authors concluded that skipping breakfast may not be the only cause of increased BMIs, but that the type of foods consumed may also affect BMI. This study suggests that the nutritional quality of ready-to-eat cereals may positively affect BMI.

Ethnic and gender differences may impact whether or not breakfast is included as a daily routine. Affenito et al. (19) reported that approximately 19% of Caucasian females and 24% of African American females surveyed skipped breakfast by age 19. In addition, girls tended to skip breakfast more often than boys (5). Another study examined the association between breakfast consumption and physical activity and adiposity in Latina and African American girls (20). They found that more frequent breakfast eaters had 30% more moderate to vigorous physical activity and a lower percent body fat than the less frequent breakfast eaters. Educational programs focusing on breakfast and targeting these groups are needed.

NUTRITIONAL QUALITY

Breakfast provides approximately 275 to 669 calories for the average child or adolescent each day (5). Children who skip this meal often have lower intakes of micronutrients and fiber than those who eat breakfast. They also are less likely to be physically active. Breakfast eaters have a greater percentage of their daily caloric intake from carbohydrates and a lower percentage from fat (5). If nutrient dense foods are chosen, breakfast can provide children with many of their needed vitamins and minerals. In fact, breakfast is important for meeting the recommended intake of many vitamins and minerals. Nicklas et al. (21) reported that children in the Bogalusa Heart Study did not meet requirements of many vitamins and minerals if they skipped breakfast, whereas children who consumed breakfast had higher intakes of vitamins and minerals. Breakfast skippers also did not meet the Recommended Dietary Allowances for vitamin D, vitamin A, vitamin B6, calcium, or phosphorus. Breakfast also is important with regard to iron intake. Children who did not consume breakfast were twice as likely to have inadequate iron intake compared to breakfast eaters (21). Iron is required for oxygen transport and is needed to prevent anemia. Adequate vitamin and mineral intake during childhood is important to support growth and development. Promoting breakfast consumption during this critical period is an excellent method for helping children to meet their needs.

Breakfast also is a great way to increase fiber intake. Children who consume breakfast have been shown to have higher fiber intakes compared to those who skip breakfast (5). Specifically, cereal is a great way to increase fiber intake (18), and a good choice is unsweetened cereal that contains whole-grain. In the study described above by Barton et al. (18), girls who consumed cereal for breakfast had higher intakes of fiber and calcium and lower intakes of fat and cholesterol than those who either did not consume cereal for breakfast or were breakfast skippers. When paired with milk, breakfast cereal provides children with important nutrients needed for growth and health (18).

Children who eat breakfast tend to increase their intake of healthy foods and decrease their intake of less healthy choices. Rampersaud et al. (5) reported that children who consumed breakfast had lower intakes of soft drinks and a higher intake of fruits and vegetables throughout the day. Breakfast eaters also were more likely to drink more milk, which can lead to higher intakes of calcium and vitamin D (3). Skipping breakfast also can cause children to make less healthy snack choices (22).



THE SCHOOL BREAKFAST PROGRAM

All children may benefit from eating breakfast at school, especially those who lack time to eat breakfast at home or have limited access to food at home. The School Breakfast Program, established permanently in 1975, is a national program that provides cash subsidies to schools to provide their students with a breakfast that meets the latest Dietary Guidelines for Americans

(23). Public and nonprofit private schools can participate in the program beginning with Kindergarten through grade 12. Public or nonprofit private licensed daycare centers and residential child care institutions also can participate in the program. The United States Department of Agriculture (USDA) provides subsidies to state education agencies, which then distribute the money to the schools. Any student at a participating school may purchase breakfast through the program; however, the price for meals varies according to family income. Children from families with incomes at or below 130 percent of the federal poverty level are eligible for free meals. Those with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced price meals, and children from families over 185 percent of the poverty level pay full price for their meals. Schools are reimbursed for each meal they serve. In the 2012–2013 school year, 13.2 million children participated in the School Breakfast Program with 10.8 million of those receiving free or reduced-priced meals (23).

School breakfast may be served in several different formats, depending on the school.

Most often, schools offer a traditional breakfast that is served in the cafeteria before school starts

(24). One alternative to a traditional breakfast is a “grab and go” breakfast, in which breakfast meals are packaged in bags and distributed to students on their way to class from kiosks in the hallway (24). Some schools offer breakfast in the classroom during the first 10 to 15 minutes of the day (24). Schools also may offer a “second chance breakfast” in either the cafeteria or from kiosks in the hallway after the first class of the day (24).

SUMMARY

Eating breakfast is important for a healthy mind and body. Children who consume a balanced breakfast may have better cognitive function. Eating breakfast also may help with weight management and prevent obesity later in life. Consuming breakfast can play an important role in providing nutrients that children need for growth and development. Time and

convenience are two important factors considered by children when making food choices. The School Breakfast Program helps provide a healthy breakfast to millions of children who might otherwise not have access. Teaching children the importance of breakfast and encouraging them to eat it on a daily basis, particularly by teaching them how to eat breakfast when on the go, may provide them with health benefits for life.

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5th Grade Lesson

LEARNING OBJECTIVE

The students will:

- list ideas for healthier portable breakfast foods.
- identify healthier breakfast options when eating meals away from home.

BEHAVIORAL OBJECTIVE

The students will:

- eat breakfast on the go rather than skipping it.
- eat a healthier breakfast when on the go.

FLORIDA STANDARDS

LEARNING ACTIVITY

PE.5.L.4.6: Plan a menu for a balanced meal.

HE.5.P.8.1: Persuade others to make positive health choices.

PHYSICAL ACTIVITY

PE.5.M.1.1: Apply locomotor skills in a variety of movement settings, while applying the appropriate movement concepts as the situation demands.



Learning Activity: Make a Breakfast on the Go

MATERIALS

- Breakfast Food Selection cards, provided
- Go, Slow, Whoa handout, provided
- PowerPoint slides of Breakfast Food Selection cards, provided
- Pencil, pen or marker

PRIOR TO ACTIVITY

1. Print three copies of each of the four Breakfast Food Selection cards.
2. Make enough copies of the Go, Slow, Whoa foods handout for each student.
3. Display the PowerPoint slides of Breakfast Food Selection cards on a projector at the front of the room. As each group presents, display the slide for their location.

ACTIVITY INTRODUCTION


Today we are going to talk about breakfast. Who can tell me why it's important to eat breakfast? Call on several children to give answers. Eating breakfast is a chance to "break the fast" that occurs as a result of not eating during the night. It also helps to fill our bodies with nutrients. It is important that we feed our bodies in the morning so we have energy to get through the day. How many of you ate breakfast this morning? Give children a chance to raise their hands. What did you eat? Call on students that raised their hands. On the days that you don't eat breakfast, what are some reasons why you don't eat? Call on several students to answer. Many people say they don't eat breakfast because they don't have enough time in the morning. Today, we are going to do an activity to learn how to eat a healthy breakfast on the go.

Raise your hand if you have heard about Go, Slow, and Whoa foods. Go foods are foods that you should eat every day; these foods are the healthiest because they do not have added fat or sugar. Who can give me an example of a "Go" food? Refer to the Go, Slow, Whoa handout to check the students answers. Slow foods are "sometimes foods". They should not be eaten every day. Who can give me an example of a "Slow" food? Refer to the Go, Slow, Whoa handout to check the students answers. Whoa foods are once in a while foods; these are the least healthy because they have added fat and/or sugar. Who can give me an example of a "Whoa food"? Refer to the Go, Slow, Whoa handout to check the students answers. Thinking about Go, Slow, and Whoa foods can help us make the healthiest choices when eating breakfast on the go.

ACTIVITY DESCRIPTION

1. Divide students into pairs.
2. Assign each group a location where breakfast is commonly eaten. Several groups will have the same location:
 - Fast food restaurant 1
 - Fast food restaurant 2
 - Home
 - School cafeteria

Some of you will pretend that you are going to eat breakfast at a fast food restaurant. Has anyone ever eaten breakfast at a fast food restaurant? Allow students to raise their hands. When you're in a rush, eating at a fast food restaurant is common because it is convenient. As you'll see, even fast food restaurants have some healthy breakfast choices.



Those of you with the Home card will pretend to be in a rush and need to grab something portable from home for breakfast. Who can tell me what portable means? Call on a student to answer. Portable means it is easy to grab and take with you on the go. When you don't have enough time to eat breakfast at home in the morning, you can choose portable foods to bring with you to eat on your way to school.

Some of you will pretend to eat breakfast at the school cafeteria. Has anyone ever eaten school breakfast? Allow students to raise their hands. Eating breakfast at school is another good option when you don't have enough time to eat breakfast at home.

3. Give each group a breakfast food selection card for their assigned location, and each student a Go, Slow, Whoa handout.

I am giving each group a paper with pictures of foods commonly found at your assigned location. I am also giving everyone a list of Go, Slow, and Whoa breakfast foods.

4. Students will circle food items to create the healthiest possible breakfast meal at their location. Their meal must contain foods from at least 3 out of the 5 MyPlate food groups.

You will have five minutes to work with your partner to create the healthiest possible breakfast meal at your location. Circle the foods that you and your partner decide to include in your breakfast meal. Your meal must contain foods from at least 3 out of the 5 MyPlate food groups. Who can tell me the names of the MyPlate food groups? Allow students to answer. The MyPlate food groups are: Dairy; Grains; Protein; Fruits; Vegetables.

A healthy breakfast can be created at each location. Use the Go, Slow, Whoa handout to figure out which food items would be the healthiest choices. Try to choose Go foods and avoid the Whoa foods whenever possible. When you are done, you will share your breakfast meal choices with the class.

5. If time allows have each group present their choices to the class and explain why it is the healthiest option. Display the PowerPoint slide that corresponds with each group's breakfast location as they present their meals. Below is an example of dialogue you could use for each presentation:

Fast food restaurant 1: Allow the group to present their breakfast meal to the class. If their meal does not contain foods from at least 3 out of the 5 MyPlate food groups, ask them what they could add to ensure that their meal included at least 3 MyPlate food groups.

Whoa foods on their menu:

- Doughnut
- Sausage on English muffin (sausage is a Whoa food)
- Pastry with icing
- Egg & cheese on a croissant (croissants are a Whoa food)
- Egg with bacon & cheese on a biscuit (bacon and biscuit are Whoa foods)
- Hash browns
- Chocolate chip muffin
- Cream cheese



If they chose any of the Whoa foods on the menu say, *"This item would not be the healthiest choice because it is a Whoa food with added sugar and/or fat. Can you suggest another menu item that would be a healthier choice?"*

Slow foods on their menu:

- Bagel (bagel is a Slow food; cream cheese is a Whoa food)
- Egg with lean ham & cheese on English muffin
- Lean turkey, ham, & low-fat cheese on flatbread
- 100% apple juice
- 100% orange juice

Slow foods are sometimes foods. Sometimes there is not a healthier choice, but other times there is. A refined grain bagel is a Slow food, while a whole wheat bagel is a Go food. So, if a whole wheat bagel is offered, choose that over a refined grain bagel. Also, order the bagel without the cream cheese, which is a Whoa food.

Go foods on their menu:

- Oatmeal with fruit
- Egg white and spinach omelet
- Low-fat milk

Great job for choosing Go foods for your breakfast meal! Sometimes, whole wheat grains are not available as an option at fast food restaurants. When this happens, it is still possible to make a healthy choice by: choosing lean meats (such as lean turkey and ham) over fatty meats (such as bacon and sausage); ordering low-fat cheese instead of full-fat cheese; choosing bread, an English muffin, tortilla, or a flatbread over a biscuit or croissant. Refined grains are okay to eat, as long as about half of the grains you eat in a day are whole grains.

Fast food restaurant 2: Allow the group to present their breakfast meal to the class. If their meal does not contain foods from at least 3 out of the 5 food groups, ask them what they could add to their meal to make it have 3 food groups.

Whoa foods on their menu:

- Egg, cheese, & sausage biscuit (sausage and biscuit are Whoa foods)
- Egg, cheese, & bacon on a bagel (bacon is a Whoa food)
- Cinnamon Roll
- Fried chicken biscuit (fried chicken and biscuit are Whoa foods)
- Pancakes with syrup and butter (syrup and butter are Whoa foods) If they chose any of the Whoa foods on the menu say, *"This item would not be the healthiest choice because it is a Whoa food with added sugar and/or fat. Can you suggest another menu item that would be a healthier choice?"* Ordering the pancakes without the syrup and butter would make the pancakes a healthier choice.

Slow foods on their menu:

- Egg, cheese, & bacon on a bagel (bagel is a Slow food; bacon is a Whoa food). Ordering this without the bacon would make it a healthier choice.
- Egg and cheese in a tortilla

- Pancakes with syrup and butter (pancakes are a Slow food; syrup and butter are Whoa foods). Ordering the pancakes without the syrup and butter would be a healthier choice.
- 100% orange juice
- 100% apple juice
- Banana mango smoothie (100% fruit)
- Mixed berry smoothie (100% fruit)

Slow foods are sometimes foods. Sometimes there is not a healthier choice, but other times there is. If there is not a healthier choice, you can modify your order to make it healthier, such as ordering the egg, cheese, and bacon bagel without the bacon or ordering the pancakes without the syrup and butter.

Go foods on their menu:

- Apple slices
- Oatmeal with fruit
- Low-fat milk
- Yogurt with fruit and granola (yogurt and fruit are Go foods; granola is a Slow food). Although granola is a Slow food, this is a healthy choice overall.
- Egg white with lean ham & cheese on English muffin (ham is a slow food)

Great job for choosing Go foods for your breakfast meal!

Home: Allow the group to present their breakfast meal to the class. If their meal does not contain foods from at least 3 out of the 5 food groups, ask them what they could add to their meal to make it have 3 food groups.

Whoa foods on their menu:

- Sugar-sweetened cereal
- Toaster pastry

If they chose any of the Whoa foods on the menu say, "This item would not be the healthiest choice because it is a Whoa food with added sugar and/or fat. Can you suggest another menu item that would be a healthier choice?"

Slow foods on their menu:

- Granola Bar
- Egg
- Sliced lean ham
- Peanut Butter
- Trail mix
- Fruit smoothie
- Granola bars are often high in sugar, which is why they are a Slow food. However, granola bars can be a healthy choice if you choose ones low in added sugar.

Go foods on their menu:

- Low-fat yogurt
- Banana
- Apple

- Low-fat cheese stick
- Whole wheat bread
- Whole wheat tortilla
- Whole wheat cereal

Great job for choosing Go foods for your breakfast meal!

School Cafeteria: Allow the group to present their breakfast meal to the class. If their meal does not contain foods from at least 3 out of the 5 food groups, ask them what they could add to their meal to make it have 3 food groups.

Whoa foods on their menu:

- Fried chicken biscuit
- Sugar-sweetened cereal
- Biscuit

If they chose any of the Whoa foods on the menu say, "This item would not be the healthiest choice because it is a Whoa food with added sugar and/or fat. Can you suggest another menu item that would be a healthier choice?"

Slow foods on their menu:

- Fat-free chocolate milk
- Peach cup in light syrup
- French toast
- Graham crackers
- Waffles
- Scrambled eggs
- Peanut Butter
- 100% apple juice
- 100% orange juice
- Egg with lean ham & low-fat cheese on English muffin
- Egg and low-fat cheese in a tortilla

Go foods on their menu:

- Whole wheat toast
- Banana
- Whole grain cereal
- Whole grain toast with low-fat cheese
- Low-fat milk

Great job for choosing Go foods for your breakfast meal!

SUMMARY

Eating breakfast is important, even when you don't have a lot of time in the morning. What can you do for breakfast when you don't have enough time to eat at home? 1. You can bring _____ (portable; allow students to answer) foods with you from home to eat on the go. 2. Eat school breakfast. 3. Stop at a fast food restaurant, but be sure to look for the healthiest options.



What are some of the healthiest breakfast choices when you are on the go? Fruits, whole grains, oatmeal, low-fat milk, low-fat yogurt, low-fat cheese, lean meat, eggs, peanut butter, trail mix are possible answers. *What foods should you try to avoid?* Bacon, sausage, biscuits, doughnuts, pastries, croissants, sugar-sweetened cereal, hash browns are possible answers.

Thumbs up if you feel confident you can eat a healthy breakfast on the go! Now we are going to do a physical activity.

Fast Food Restaurant 1

Make the healthiest breakfast meal possible that includes foods from at least 3 out of 5 MyPlate food groups. All grain-based foods are refined unless the words “whole grain”, “whole wheat”, or “oatmeal” are used in the description.



Doughnut



Sausage on English muffin



Pastry with icing



Egg white & spinach



100% Orange Juice



Bagel with cream cheese



Oatmeal with fruit



Egg & low-fat cheese on a croissant



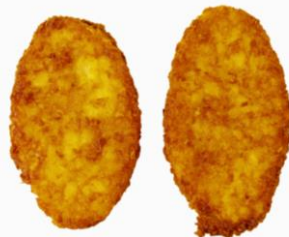
Egg with lean ham & low-fat cheese on English muffin



Low-fat milk



Egg with bacon & full-fat cheese on a biscuit



Hash browns



Lean turkey, ham, & low-fat cheese on flatbread



Chocolate chip muffin



100% Apple Juice

Fast Food Restaurant 2

Make the healthiest breakfast meal possible that includes foods from at least 3 out of 5 MyPlate food groups. All grain-based foods are refined unless the words “whole grain”, “whole wheat”, or “oatmeal” are used in the description.



Apple slices



Egg, full-fat cheese, & sausage biscuit



Egg white with lean ham & low-fat cheese on English muffin



Egg, full-fat cheese, & bacon on a bagel



Low-fat milk



Oatmeal with fruit



Cinnamon Roll



Pancakes with syrup and butter



100% Apple Juice



100% Orange Juice



Fried chicken biscuit



Egg and low-fat cheese in a tortilla



Low-fat yogurt with fruit and granola



Banana mango smoothie



Mixed berry smoothie

Grab and Go from Home

Make the healthiest breakfast meal possible that includes foods from at least 3 out of 5 MyPlate food groups. All grain-based foods are refined unless the words “whole grain”, “whole wheat”, or “oatmeal” are used in the description.



Peanut Butter (no added sugar)



Banana



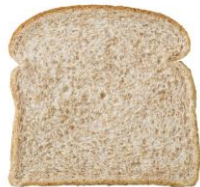
Granola Bar



Fruit smoothie



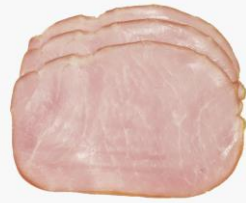
Sugar-sweetened cereal



Whole wheat bread



Trail mix: nuts and dried fruit



Sliced lean ham



Hard-boiled egg



Low-fat cheese stick



Toaster Pastry



Whole wheat cereal



Apple



Whole wheat tortilla



Low-fat yogurt

School Cafeteria

Make the healthiest breakfast meal possible that includes foods from at least 3 out of 5 MyPlate food groups. All grain-based foods are refined unless the words “whole grain”, “whole wheat”, or “oatmeal” are used in the description.



Fried chicken biscuit



Egg and low-fat cheese in a tortilla



Whole grain toast with low-fat cheese



Whole grain cereal



Low-fat chocolate milk



Whole wheat toast



Peanut Butter



Sugar-sweetened cereal



Low-fat milk



Biscuit



French toast



Waffles



Banana



100% Orange Juice



Graham crackers



Egg with lean ham & low-fat cheese on English muffin

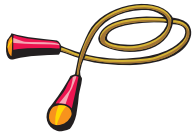


Peach cup in light syrup



100% Apple Juice

Food Group	GO foods Everyday foods	SLOW foods Sometimes foods	WHOA foods Only on special occasions
Dairy	Fat-free and low-fat (1%): cheese milk yogurt	Low-fat chocolate milk Reduced fat (2%): cheese milk yogurt	Whole/full fat: cheese milk yogurt
Fruits	All fresh and frozen fruits Fruit canned in juice	Dried fruit Fruits canned in light syrup Fruit Juice Smoothies with added sugar	Fruits canned in heavy syrup Fruit roll ups
Grains	Oatmeal Unsweetened whole grain breakfast cereal 100% whole grain: bagel, bread, pita, flatbread, English muffin, and tortilla	French toast Graham Crackers Granola Pancakes Refined grain/white: bagel, bread, pita, flatbread, English muffin, and tortilla Waffles	Biscuits Croissants Doughnuts Muffins Pastries Sugar-sweetened, refined grain cereal
Protein	Egg whites Lean or low-fat turkey	Ham Nuts Peanut butter and other nut butters Turkey or chicken sausage Whole eggs, cooked without added fat	Bacon Fried chicken Sausage Whole eggs, cooked with added fat or fried in oil
Vegetables	All fresh, frozen, and canned vegetables without added fat and sauces	All vegetables with added fat and sauces	Fried vegetables: Hash browns
Other			Butter Cream cheese Syrup



Physical Activity: Breakfast on the Go as Fast as You Can

MATERIALS

- Timer
- PowerPoint slide of physical activity acronym

On the mornings that you don't have time to eat breakfast, you may need to quickly grab a breakfast to take on the go. This activity will help you practice going as fast as you can, while doing moves that spell out the word "breakfast".

PRIOR TO ACTIVITY

Display the PowerPoint slide on a projector at the front of the classroom. Reveal only the first letter in the word (i.e., B). After the students complete the activity associated with the first letter of the word, reveal the next letter. Do this for each of the remaining letters.

ACTIVITY DESCRIPTION

Instruct students to do as many of the following activities as they can in 15-30 seconds, depending on how much time is remaining for the lesson:

B: bicep curls: curl arms up to shoulders

R: run in place

E: elbow to knee: place hands on back of head with elbows bent and facing forward; bend left knee and lift as you twist your torso to touch right elbow to left knee; return to starting position; repeat with right knee to left elbow

A: arm circles: extend arms straight to the side and rotate them in a circular motion

K: karate chop: bend arms at elbows; extend right arm down then return to starting position; extend left arm down then return to starting position

F: frog jumps: squat down to touch the floor then jump up

A: alternating leg hops: hop on left foot then hop onto right foot and repeat

S: squats: bend knees and lower oneself as if sitting in an imaginary chair

T: toe touches: touch left foot with right hand, stand up, then touch right foot with left hand

Please stand next to your desk/chair. When I say go, you are going to do as many bicep curls (demonstrate move) as you can until I say "stop" (give them 15-30 seconds; adjust depending on how much time remains).

Now, run in place as fast as you can until I say "stop".

Do as many elbow to knees (demonstrate move) as you can until I say "stop".

Do as many arm circles (demonstrate move) as you can until I say "stop".

Do as many karate chops (demonstrate move) as you can until I say "stop".

Do as many frog jumps (demonstrate move) as you can until I say "stop". Do as many alternating leg hops (demonstrate move) as you can until I say "stop".

Do as many squats (demonstrate move) as you can until I say "stop".

Do as many toe touches (demonstrate move) as you can until I say "stop".



EVALUATION QUESTIONS

1. Which of the following is a portable breakfast that contains only “Go” foods?
 - a. Whole wheat tortilla with low-fat cheese and apple slices
 - b. Toaster pastry with low-fat milk
 - c. Granola bar with 100% orange juice
 - d. Whole wheat bagel with cream cheese
2. Choose the healthiest breakfast meal:
 - a. Egg white and low-fat cheese on a biscuit
 - b. Egg and cheese on a croissant
 - c. Egg white and low-fat cheese on an English muffin
 - d. Egg and cheese on an English muffin

Physical Activity

“Breakfast on the Go as Fast as You Can”

Bicep curls
Run in place
Elbow to knee
Arm circles
Karate chop
Frog jumps
Alternating leg hops
Squats
Toe touches



LESSON 3



Make It a Goal to Eat More Fruits and Vegetables!

Concept

Most children do not consume the recommended amounts of fruits and vegetables. To get the optimal health benefits from fruits and vegetables, it is important to consume a variety of foods from these two food groups. This lesson focuses on teaching children about the importance of eating a variety of fruits and vegetables and their health benefits in a way that is fun and engaging.



Background

Goal setting theory is the idea that specific and challenging goals lead to improved performance. Research suggests that as long as a person is committed to a goal, has the ability to achieve their goal, and doesn't have any opposing goals, they are very likely to meet their goal (1). Locke and Latham (1) explain that more challenging goals encourage people to work harder to achieve them, but that people need to have the confidence, or self-efficacy, to do so. They also state that the first step of goal setting is for people to realize that their current situation needs to change (1). This lesson starts with this first step by teaching students the current recommendations for fruit and vegetable intake and comparing them to what they are currently eating as well as highlighting the benefits of eating more fruits and vegetables.

Research indicates that many children's current fruit and vegetable intake is below MyPlate recommendations. MyPlate recommends boys ages 9 to 13 consume 1.5 cups of fruits and 2.5 cups of vegetables per day, and girls ages 9 to 13 consume 1.5 cups of fruits and 2 cups of vegetables per day (2, 3). Data from the 2001-2004 National Health and Nutrition

Examination Survey (NHANES) found that 78.4% and 96.2% of male children ages 9 to 13 were consuming less than the recommended daily amounts of fruits and vegetables, respectively. For female children ages 9 to 13, 80.6% and 94.6% were consuming less than the recommended daily amounts of fruits and vegetables, respectively (4). The vast majority of children in this age group are falling below recommendations for fruits and vegetables.

MyPlate recommends eating more fruits and vegetables as part of a healthy diet because fruits and vegetables provide fiber, vitamins, minerals, and phytochemicals with antioxidant capacity. Increased intake of fruits and vegetables is associated with decreased risk of cardiovascular disease (5), type 2 diabetes (6), and cancer (7). Fiber is important to keep the gastrointestinal (GI) tract healthy and has been shown to decrease cholesterol and lower the risk of heart disease (8). Fruits and vegetables are considered "nutrient-dense foods" because they are usually low calorie and are sources of nutrients such as potassium, vitamin A, and vitamin C (9). Potassium is an electrolyte that plays important roles in muscle contraction and is related to decreased blood pressure and risk of stroke (10). Vitamin A is involved in immune function, tissue development, and healthy vision. It also has antioxidant function and is associated with reduced risk of certain chronic diseases (11). Vitamin C also is an


important antioxidant, plays a role in immune function and helps reduce damage caused by oxidative stress(12).

Increasing fruit and vegetable intake as part of a healthy diet is an effective weight management strategy. Epstein et al. (13) compared the difference between increasing fruits, vegetables, and low-fat dairy compared to decreasing energy-dense foods on weight loss in 41, 8 to 12 year old overweight or obese children. These children were part of a family based behavioral weight control intervention that used the Traffic Light Diet to decrease calories and teach families to follow a healthy diet. One group focused on increasing intake of healthy foods by setting goals for the children to eat more fruits, vegetables and low-fat dairy. The second group focused on reducing unhealthy/energy-dense foods by setting goals for the children to limit their intake of these foods. The researchers reported that the children who set goals that focused on increasing their intake of healthy foods had greater reductions in BMI compared to the other group (13). Setting positive goals focused on increasing intake of healthy foods such as fruits and vegetables, was an effective weight loss strategy for these children.

Another study found that encouraging fourth grade students to set goals to consume more fruits, 100% fruit juice, and vegetables was effective at increasing their intake of these foods. They also found that setting two goals - as opposed to one goal - did not further increase their intake (14). This research suggests that encouraging children to focus on a single goal related to increasing fruit and vegetable intake is sufficient for achieving that goal.

According to goal setting theory, there are several factors that affect how successful people are with achieving their goals. One of the most important factors is whether or not the goal is SMART. A SMART goal is one that is Specific, Measurable, Attainable, Relevant, and Time bound (15). In this lesson, after recognizing that they may not be meeting the recommended amounts of fruits and vegetables per day, students will set SMART goals to increase fruit and vegetable intake. The first step in this process is to be very specific about their goal, which according to theory will improve their motivation (1).

Most children in the US are not meeting their fruit and vegetable requirements. Research supports the use of goal setting for increasing fruit and vegetable intake. The use of SMART goals can help students be more intentional about adding fruits and vegetables to their meals and snacks so



they can eat the recommended amounts and reap the health benefits provided by these foods.

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5th Grade Lesson

LEARNING OBJECTIVE

The students will:

- be able to define a SMART goal.
- develop SMART goals to increase their fruit and vegetable intake.

BEHAVIORAL OBJECTIVES

The students will:

- increase their fruit and vegetable intake.

FLORIDA STANDARDS

HEALTH EDUCATION

HE.5.B.6.1: The student will specify a personal health goal and track progress toward achievement.



Learning Activity

MATERIALS

- MyPlate poster
- Tape or sticky tack
- Setting SMART Goals worksheet, provided
- Class Goal Tracker worksheet, provided
- A ball made out of two pieces of 8.5x11" paper and wrapped tightly with aluminum foil
- Wastebasket with a clean bag
- Watch or timer

PRIOR TO ACTIVITY

Print enough Setting SMART Goals worksheets for each student to have one and tape the MyPlate poster on to the board in front of the class. Print two copies of the Class Goal Tracker (one for the educator and one for the student who will record the data).

ACTIVITY INTRODUCTION

Today we are going to talk about eating more fruits and vegetables. Who can tell me how much of their plate should be filled with fruits and vegetables? Point to the MyPlate poster during this part of the discussion. Yes. Half of your plate should be filled with fruits and vegetables. Who has a favorite fruit or vegetable that they want to share with the class? Call on a few students to share their favorite fruit or vegetable. Those are great! But why is it so important to eat enough fruits and vegetables? Call on students to answer and correct any wrong answers. Those are all great answers. Fruits and vegetables are full of fiber, vitamins, and minerals that your body needs to stay healthy.


Does anyone have any idea how many cups of fruits you are supposed to eat every day? Allow students to guess. MyPlate recommends that boys and girls your age eat 1½ cups of fruits every day. What about vegetables? This one is tricky because it is different for boys and girls. Let's start with boys. Call on a student to answer; the correct answer is 2½ cups. Good! Now, do any girls remember how many cups of vegetables you are supposed to eat every day? Call on a student to answer; the correct answer is 2 cups. Great! Raise your hand if you think you are eating this many fruits and vegetables every day. Allow students to raise their hands. If you are, that's great, but most children your age are not eating enough of these foods. Today you are going to learn how to add more fruits and vegetables to your day.

One way to help you eat the recommended daily amount of fruits and vegetables is to set a goal to eat more of these foods. Who can tell me what a goal is? Call on one or two students to explain the concept of a goal. Right, a goal is something that you work towards to achieve. Raise your hand if you have ever set a goal for yourself. Select a few students and ask them to share their goal. Those are great goals! If you don't set goals it can be more difficult to accomplish things. The best way to choose a goal is to decide what you want in life. For example, if you want to stay healthy, you may want to set a goal to eat more fruits and vegetables because they contain vitamins, minerals, and other substances that are important for maintaining good health.

Distribute a "Setting SMART Goals" worksheet to each student and make sure everyone has a pen or pencil.

ACTIVITY DIRECTIONS

One way to make a good goal is to make a SMART goal. If you look at your worksheet, you can see that each letter in the word "SMART" stands for something. S stands for



specific, M stands for measurable, A stands for attainable, R stands for relevant, and T stands for time-bound. Today, we are going to set a SMART goal about shooting this ball in this wastebasket.

The first letter is S, which stands for specific. Who would like to volunteer to read what the worksheet says about specific? Call on a student to read the worksheet for the class. Who can tell me how many shots would equal "a lot"? Call on a few students to give their ideas about what is meant by "a lot". See, "a lot" means something different to everyone, so it's not very specific.

The next step is M, which stands for measurable. I need another volunteer to read what the worksheet says about measurable? Call on a student to read the worksheet for the class. We are going to measure our success of meeting our goal by keeping track of the number of baskets that are made. I need a volunteer to be my goal tracker when we start our activity. Choose one student to record the baskets and hand him or her the Class Goal Tracker worksheet.

Next is A for attainable. Who would like to read what the worksheet says about attainable? Call on a student to read the worksheet for the class. It is important to make sure that you set a goal that you can actually reach so you don't get frustrated.

The next letter R stands for relevant. Who will be my next volunteer to read what the worksheet says about relevant? Call on a student to read the worksheet for the class. Goals should be consistent with what you are trying to achieve in your life.

The last letter is T, which stands for time-bound. When setting goals, it's best to decide the time frame in which you will accomplish your goal. For our goal, we need to decide as a class what our time limit will be. Do you want to have A. 5 minutes, B. 5 ½ minutes or C. 6 minutes? Have the class vote to decide, and then instruct them to circle the time that they chose.

So, putting it all together, a SMART goal related to making "baskets" might sound something like this: At least 50% of the class will make a basket within 5 minutes, with each student getting one turn and everyone in the class staying quiet when someone is taking a shot. So now, does everyone understand what it means to make a SMART goal?

So this goal is specific, measurable, attainable, and relevant, and we have our time limit. So now, does everyone understand what it means to make a SMART goal? Is everyone ready to work toward achieving the goal we set?

Put a piece of tape on the floor to indicate the line behind which students will stand when taking their turn to attempt to make a basket. Position a wastebasket with a clean trash bag an appropriate distance from the piece of tape. Instruct the students to form a single line behind the piece of tape except for the goal tracker who will be recording the baskets. Allow each student to take a practice shot. After everyone has taken their practice shot, get the students ready to take their shot that counts toward the goal.

Now that everyone has had a chance to practice throwing the ball into the wastebasket, we are going to see if we can make our goal. Remember to remain quiet when your classmates are taking their shots. I am going to set the timer for 5 minutes. As soon as you take your shot, return the ball to the next person and then return to your seat.

Are you ready? As soon as I say "Go", the first person in line should aim for the basket and shoot. As soon as you are done, return the ball to the next person in line and then return to your seat. Okay – ready, set, go! Keep track of time while the students are



shooting. Record the outcome of each shot on the other copy of the Class Goal Tracker as a backup. Once the time is up, ask the student who is tracking the outcome of each student's toss to count the number of "yes" results and the number of "no" results. Write the numbers on the board and ask the students to determine if the class goal was met.

Great job! SMART goals can be used for more than making baskets. A great way to use a SMART goal is to help you to eat enough fruits and vegetables. Now, I want you to write your own SMART fruit and vegetable goal on the back of the worksheet. Think about each of the steps involved in making SMART goals. Raise your hand if you need help. Give the students a few minutes to write their SMART goal and answer any questions. Once they have finished, call on a few students to share their goal, and make sure they meet the SMART criteria. *Those are great! With SMART goals like these, you will be eating more fruits and vegetables before you know it!*

SUMMARY

Okay, now let's review what we learned today. Who remembers what the S means? Call on a student to say specific. Who can tell me what the M means? Call on a student to say measurable. Who can tell me what the A means? Call on a student to say attainable. Who can tell me what the R means? Call on a student to say relevant. And who can tell me what the T means? Call on a student to say time-bound. So remember, when you want to achieve something that is important to you, like eating more fruits and vegetables to support good health, making goals that are SMART can help you increase the chance of being successful.



Setting SMART Goals!

Suppose we wanted to set a SMART goal for making “baskets” into a wastebasket. To make our goal SMART, we need to understand what each letter of the word “SMART” represents.

S stands for specific. You should be clear about what you want to happen.

- Nonspecific: We are going to make a lot of shots into the wastebasket.
- Specific: Everyone in the class will have one chance to make a basket.

M stands for measurable. You should be able to measure your goal.

- Not measurable: We are going to make a lot of shots.
- Measurable: Fifty percent of the class will make their shot.

A stands for attainable. Your goal should be something that you can achieve.

- Not attainable: The class will make 100% of its shots.
- Attainable: The class will make 50% of its shots.

R stands for relevant. Does your goal apply to you? Is this something you want to accomplish?

- Relevant: This activity is about making baskets, so the goal should be about making baskets.

T stands for time bound. You should decide the time frame within which you will accomplish your goal.

- No time: Fifty percent of the class will make their shot.
- Time: Fifty percent of the class will make their shot in _____ minutes.

Let's decide as a class on the number of minutes in which we want to accomplish our goal of having 50% of the class make a basket.

- a. 5 minutes
- b. 5 ½ minutes
- c. 6 minutes

So, putting it all together, a SMART goal related to making “baskets” might sound something like this: After taking one practice shot, at least 50% of the class will make their second shot within 5 minutes, with everyone in the class staying quiet when someone is taking a shot.

My SMART fruit and vegetable goal: _____

Action Steps I can take: _____

Class Goal Tracker

Directions: Write “yes” in the space below the box labeled “Student 1” if the first student to shoot a basket makes it, and “no” if they do not. Do the same thing for “Student 2”, “Student 3”, until each student has had a turn or you run out of time.

	EXAMPLE	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	STUDENT 5
Did they make their shot?						

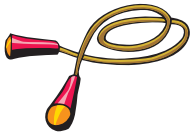
	STUDENT 6	STUDENT 7	STUDENT 8	STUDENT 9	STUDENT 10	STUDENT 11
Did they make their shot?						

	STUDENT 12	STUDENT 13	STUDENT 14	STUDENT 15	STUDENT 16	STUDENT 17
Did they make their shot?						

	STUDENT 18	STUDENT 19	STUDENT 20	STUDENT 21	STUDENT 22	STUDENT 23
Did they make their shot?						

Class goal: After taking one practice shot, at least 50% of the class will make their second shot within _____ minutes, with everyone in the class staying quiet when someone is taking a shot.

Did the class achieve their goal? _____



Physical Activity: Ready, Set, Goals!

PRIOR TO THE ACTIVITY

Print the Ready, Set, Goals worksheets and cut them in half. Each student should receive one copy of the worksheet.

ACTIVITY INSTRUCTIONS

So, we know that to stay healthy, it's important to eat plenty of fruits and vegetables, and it's also important to get enough physical activity. Does anyone know how much physical activity you are supposed to get every day? Call on students to guess; the correct answer is at least 60 minutes per day. We can use SMART goals to help us achieve this amount of physical activity!

MOVEMENTS

Distribute a Ready, Set, Goals worksheet to each student. *The worksheet you received has three different physical activities listed on it. Your job is to set the "T" for these activities. Remember, T stands for (pause and let the students say, TIME). That's correct! The "T" stands for time bound. The worksheet already gives you the specific type of activity to do, and the number of repetitions you will do for each activity, which is the "M" in SMART. In setting the time, you should think about the amount of time that is attainable and realistic for completing the activities listed on the worksheet, without making it too hard (not attainable) or too easy.*

The first activity is ten push-ups. How much time do you think it will take to complete ten push-ups? A) 20 seconds B) 25 seconds or C) 30 seconds. Poll the class to determine the time limit for completing 10 push-ups. Now, write the time we agreed on in the box that says Goal time under ten push-ups.

The next activity is twenty-five jumping jacks. How much time do you need to complete twenty-five jumping jacks? A) 15 seconds B) 20 seconds or C) 25 seconds. Poll the class to determine the time limit for completing 25 jumping jacks. Now, write the time we agreed on in the box that says Goal time under twenty-five jumping jacks.

The last activity is fifteen squats. How much time do you need to complete fifteen squats? A) 20 seconds B) 25 seconds or C) 30 seconds. Poll the class to determine the time limit for completing 15 squats. Now, write the time we agreed on in the box that says Goal time under fifteen squats.

Now that we have determined our SMART physical activity goals, we are going to accomplish them! Your partner will be the person sitting next to you, write your name and your partner's name in the spaces provided at the top of your worksheet. One of you will be the tracker, and one of you will do the activities first, then you will switch.

When you have decided which partner will go first, stand up quietly. When I say "go" the student who is doing the activity will start doing push-ups. Keep doing push-ups until I say time is up, even if you have done the number of repetitions listed on the worksheet. For example if you have done 10 push-ups before I call time, keep doing them to see how many you can do in the amount of time allotted. The student who is the tracker will help count the number of push-ups until time is up. The tracker will write the number of repetitions completed by their partner in the box that says "reps completed". You will do the

MATERIALS:

- Ready, Set, Goals worksheet, provided
- Timer(s)



same thing for the other two activities. Any questions? Answer any questions. Everyone ready? GO! Keep track of time on your watch, phone or timer, and tell the students when to stop.

Stop! Remember to write the number of reps on the worksheet, and write whether your partner met their goal in the last row of the worksheet

Now, you are going to switch with your partner so the student who was the tracker will do each of the physical activities and their partner will be the tracker. Reset the timer. Ready? GO!

Once everyone has finished with the push-ups, switch partners again and move on to jumping jacks, and then squats.

Did anyone meet all three of their goals? Have the students raise their hands if they did. Wow! Great job everyone!



Name: _____ **Date** _____

Ready, Set, Goals!

ACTIVITY					
10 PUSH-UPS		25 JUMPING JACKS		15 SQUATS	
Goal Time					
Reps completed					
Did your partner meet their goal?					

Name: _____ **Date** _____

Ready, Set, Goals!

ACTIVITY					
10 PUSH-UPS		25 JUMPING JACKS		15 SQUATS	
Goal Time					
Reps completed					
Did your partner meet their goal?					



EVALUATION QUESTIONS

1. What does the A in SMART stand for?
 - a. Amazing
 - b. Attainable
 - c. Apple
 - d. Awesome
2. Choose the SMART goal from the list below.
 - a. To eat 25 bananas this week.
 - b. To eat 1 piece of fruit for a snack.
 - c. To try 2 new vegetables by this Sunday.
 - d. To eat more fruits and vegetables this week.

LESSON 4



You Can't Fool Me

Concept

Foods from the Dairy group provide children with important nutrients such as calcium, which is needed for strong bones and teeth. This lesson introduces children to the foods in the Dairy group and teaches them how much they need and why dairy foods are important for their bodies.



Background

According to the CDC, children ages 8 to 18 spend an average of 4.5 hours per day watching television (1). This exposure to television also can increase the number of food-related advertisements that children may view. In fact, up to 78% of advertisements on a given Saturday morning are food-related (2), many of which use persuasive techniques during children's peak viewing times (3). The majority of advertisements shown in conjunction with children's programming are for products that contain high amounts of sugar, fat, and salt (4, 5). In fact, up to 91% of food-related advertisements run during children's peak viewing times are for foods with a low nutrient density (6). According to a report by the Kaiser Family Foundation, of the over 6,100 food advertisements seen by children and adolescents on television alone, only 5% advertise healthy foods (7). With an estimated \$10 billion spent every year on advertising food and beverage-related products, the amount spent on healthy foods doesn't compare to that spent on unhealthy foods (7). Exposure to these types of advertisements can lead to a significant increase in the intake of high fat and high sugar foods, as well as an increase in the preference for those foods (8). This type of behavior may increase the risk for a child or adolescent to become overweight or obese (9). Older research suggests that the possible associations between increased television time and obesity could be due to increased rates of sedentary activity while watching television; however, it seems that just viewing food advertisements while watching television can have an effect (10).

Many different marketing techniques are used to produce advertisements aimed at children:

- **Celebrity Endorsements:** Food and beverage advertisements endorsed by celebrities can significantly increase the likelihood that a child will want to purchase that product by increasing their preference for that product (11).
- **Toys and Gifts:** Inclusion of a toy with the purchase of a product also can influence a child's desire for a given product (12), even if it is sold in conjunction with a healthy menu option (13).
- **Skill:** Another marketing technique is to make it appear as if there will be an increase in a certain skill by consuming a particular product. In fact, this technique is more prevalent than advertisements that feature a free toy, and these types of commercials may promote overconsumption of the high fat and high sugar foods being advertised (14).
- **Technology:** As technology and Internet usage have become more popular, advertisers have used this to their advantage

by creating apps, websites, and commercials with technology in them to further persuade children to want to purchase a product. Many advertisements direct consumers to an online site where they can show more product advertisement and feature games associated with their products. Online games and websites marketed and created by advertisers can keep children focused on those products (9).

- **Visual and Auditory Effects:** Lastly, visual effects, animation, and fun commercials are widespread among food-related advertisements for children (9). Many commercials on children's programming networks include fun characters, unforgettable songs, and visually appealing features.

As mentioned above, American children spend an average of 4.5 hours in front of a screen with television viewing alone accounts for 2.5 of these hours (14). Television viewing and Internet use among children and youth is popular, and this is not likely to change. Nor is it likely that food advertisers will resort to less influential tactics when marketing their products to children. One approach to reducing the influence of commercials and other marketing techniques is to teach children about the techniques used to advertise and sell products that may increase their preference for products, particularly those that advertise unhealthy foods and beverages. This lesson serves to teach students some of the techniques used by advertisers so that they will learn to recognize these techniques and be less influenced by food-related advertisements.

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5th Grade Lesson

LEARNING OBJECTIVES

The students will state that:

- identify tactics advertisers use to influence food choices.
- recognize characteristics of advertisements designed to appeal to them.

BEHAVIORAL OBJECTIVE

The students will:

- Students will be less influenced by food advertisements directed toward them.

FLORIDA STANDARDS LEARNING ACTIVITY

HE.5.C.2.5 Determine how media influences family health behaviors and the selection of health information, products, and services.



Learning Activity: You Can't Fool Me!

MATERIALS

- Access to YouTube
- 25 "You Can't Fool Me" worksheets, provided

PRIOR TO THE ACTIVITY

Make enough copies of the "You Can't Fool Me" worksheet for each student in the class. If the classroom is equipped with Internet access and projector then set it up for use during the activity. If the classroom is not equipped with Internet and a projector then an iPad would also work.

If internet is available and commercials can be shown, use the "You Can't Fool Me" worksheet without the commercial summaries. If Internet access is not available and/or the commercials cannot be shown to the students, use the "You Can't Fool Me" worksheet template that includes the summaries for commercials involving techniques.

ACTIVITY INSTRUCTIONS

Who has a favorite commercial? Why is it your favorite? Choose a few students to tell the class what their favorite commercial is and why.

Today we're going to learn about advertisements, but first we're going to discuss a few questions.

Questions:

What is advertising?

Ask a group to volunteer to give their response to this question. Ask if there are any other students who want to add something or have a different idea about advertising.


The people who make products, such as the foods we eat and the drinks we drink, create advertisements to try and persuade us to buy their products. Advertisements, also called ads, can be in many different forms such as TV, radio, Internet, magazines, print ads, and ads on trucks, billboards, or on various objects.

Today we're going to focus on advertisements that we see when we are watching television.

After seeing an advertisement on television, what makes you want to purchase that product?

Ask another student to share their response as to why they choose to purchase/ask their parents to purchase a product after they have seen an advertisement for it on television.

Sometimes advertisers use certain tactics or strategies to persuade us to purchase their products. Raise your hand if you have seen an ad on TV with a famous person? Most people want to be just like their favorite actor/actress, sports hero or superhero. Because we want to be like them we're more likely to buy the things they buy and to eat the things they eat. That is just one of the many ways that companies try to influence you to buy their products. Other tactics include using music, such as a popular song or a little jingle that you can't forget. Ask a volunteer to name a product that has a jingle or song and to sing the song if they remember it. Good! Sometimes advertisers use bright colors and loud noises, give away free products, use the latest



technology or social media, or make you think you'll get better at something if you eat or use certain products.

The reasons we like a specific product is often because of the strategies used by advertisers. Advertisers want us to notice their ads and want us to buy their products. Today, your job is to recognize the strategies used to influence your desire for a product and to remember what you have learned about Go, Slow, and Whoa foods so you can spot foods that are not the best choice. Knowing the strategies that advertisers use to get you to buy their products and recognizing when a food is not a good choice may help you resist less healthy choices.

Now, let's take a look at some advertisements and talk about the strategies they are using to influence your desire for these foods.

Show a commercial with a celebrity endorser, then ask the students to identify the technique used in the commercial. We recommend the following commercial: <http://www.youtube.com/watch?v=oHezv9Jd8T4>

Great! This commercial is a good example of using a celebrity to get you to buy something. Many commercials use celebrities like actors, singers, athletes, and super heroes. If we think that a celebrity whom we admire eats a certain food or drinks a certain drink, we are more likely to want to purchase those products.

Next, show a commercial with a fun song or chant and ask the students to identify the technique used in this commercial. We recommend the following commercial: <http://www.youtube.com/watch?v=hghHreUKMLo>

That's right! This commercial has a fun song that makes the commercial appealing. Think about all of the commercials with unforgettable songs. Can someone sing a jingle from a commercial? Once you hear the song it's hard to get it out of your head, which helps you remember the product associated with it. The advertisers do this to make it more likely that you will purchase the product.

Now, show a commercial with technology or social media; this can include things such as smartphones, tablets, computers, Facebook, Twitter, or other social media. It also can include an online component such as advertising for an online game, or telling the children to go online to the company website. Once again, ask the students to identify techniques used in this commercial. We recommend the following commercial:

<http://www.youtube.com/watch?v=z-hT5xALpDY&list=PLI-aJwLFZfwd6ClZHG15W7r8cjl6BfrAq>

Good! This commercial uses social media to attract young audiences to a certain product. Advertisers use technology, such as text notifications, games, or online activities, to increase the likelihood that kids will want these products and ask their parents to buy them.

Show a commercial with the outcome being an improvement in doing something or being better at doing something than others, such as a sport, a form of art, or even improved/better performance in school. Ask the students to identify the techniques used in this commercial. We recommend the following commercial:

<http://www.youtube.com/watch?v=4oDykbPa4Lc>

Yes, this commercial uses a product to persuade the consumer that he/she will increase their strength, knowledge, or ability to complete at a task. This is appealing because



most of us have something that we would like to be really good at doing – like being a better athlete, singer, actor, or artist. This type of commercial tries to persuade you to think you can improve in a task if you eat/drink the product.

Finally, show a commercial with gifts such as toys or games. Then, ask the students to identify some of the techniques used in the commercial. We recommend the following commercial: http://www.youtube.com/watch?v=jUNsQFG_5Pk

Great! This commercial uses gifts to make you want to purchase a product. It could be a box of cookies that comes with a video game, or a breakfast cereal that comes with a cool action figure. You may want your parents to buy this product simply because it comes with a toy. Purchasing the product makes you one step closer to eating/drinking it.

Remember that even though most commercials sound and look different, they generally use one or more of the techniques we've discussed to make their commercials appeal to us. They use these clever techniques to motivate us to want to purchase their products. Advertisers use social media or technology, make us think we will magically become better at something, or use celebrities to help persuade us to buy their products. So, remember to be on your guard when watching food-related commercials and advertisements for "Slow and Whoa" foods, and think about the techniques that advertisers are using to tempt you into buying their products.

You Can't Fool Me

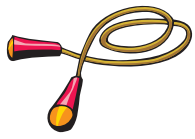
Directions: After viewing each commercial, match the correct technique with the commercial in which it was used.

Techniques:

- a. Catchy songs or music
- b. Improvement at sports, art, or school
- c. Using celebrities
- d. Giving gifts or toys
- e. Technology or social media

Commercial Summary	Technique
1	
2	
3	
4	
5	





Physical Activity

ACTIVITY INTRODUCTION

Now, it's time to *fight back* against those techniques that can persuade us into wanting or buying foods that are not as healthy for us. To do this we're all going to stand up and use some karate moves to *fight back*. Instruct the students to stand and spread out enough to allow each student to have enough room to do karate kicks and arm punches without hitting another student.

We're going to start by doing some simple alternating punches in front of us. Instruct the students to punch in front of them alternating one arm at a time. Now, I'm going to read aloud some descriptions of advertisements. If the description contains a technique that advertisers use to persuade you to purchase their product, I want you to do 4 karate kicks. Remember: this only applies to commercials with unhealthy foods! If the description of the ad is for a healthy food, just keep punching your arms out in front of you, and keep punching between each description as well.

1. A commercial has 5 young girls downloading apps on their smartphones. One of the apps is a game called "Breakfast Maker" that was created by a manufacturer of a sugar sweetened cereal. (4 karate kicks)

Discussion: Good job! This commercial uses technology, which in this case, was the smartphone app.

2. An advertisement tells you that you'll receive a cool new game when you purchase a bag of their chocolate candy. (4 karate kicks)

Discussion: Great! This commercial uses gifts to persuade you to want their food.

3. A fruit company has the most popular band talking about how great the fruit is. (no karate kicks)

Discussion: You should still be punching. Although this company uses celebrities, the product is a healthy choice and fruit is something we should eat instead of sugary snacks.

4. A commercial for a fast food company starts off by having a group of break-dancers dance along to an awesome, unforgettable rap song. (4 Karate Kicks)

Discussion: Exactly right! This unforgettable rap song may have you singing, and possibly even dancing, all the way to the restaurant.

5. An advertisement talks about how eating breakfast can make you more focused for school. They explain that a good way to start off your morning would be to eat their whole wheat bread. (no karate kicks)

Discussion: Keep punching! This advertisement is an advertisement for whole grain bread. It's best to eat whole grains instead of processed ones. There is no need to "fight back" on this commercial.

6. The new gummy snacks commercial tells you to "go like them on Facebook" and to "Follow them on Twitter." (4 Karate Kicks)

MATERIALS

- None



Discussion: Good! This commercial wants to earn "cool points" by having you go to their Facebook page and Twitter page where they can do more advertising to persuade you want to buy their gummy snacks.

7. During a famous character from your favorite TV show pops up on the television screen during a commercial break and tells you to purchase the new Strawberries and Cream Soda so you can automatically be entered to win a trip for four to meet him in Los Angeles. (4 Karate Kicks)

Discussion: That's right! This commercial uses two techniques. First, he is famous, and second, you have the chance of a lifetime to win just for buying the soda.

You Can't Fool Me!

Directions: Read the following commercial descriptions, and match the correct technique with the commercial in which it was used.

COMMERCIAL SUMMARY	TECHNIQUE
<p>The football player Drew Brees, and the band, One Direction, arguing over a popular name brand soda.</p> <p>ANSWER _____</p>	a. Catchy songs or music
<p>This commercial has music and a catchy song.</p> <p>ANSWER _____</p>	b. Improvement at sports, art, or school
<p>This cereal commercial has a story line; however, the story doesn't finish. To finish watching what happens, you're directed to the online site.</p> <p>ANSWER _____</p>	c. Using celebrities
<p>A young boy is learning to do karate, but is unable to do things like breaking boards. He grows up and can finally do it and is rewarded with a name brand soda.</p> <p>ANSWER _____</p>	d. Giving gifts or toys
<p>You receive a free miniature game inside the box if you buy this sugar sweetened cereal.</p> <p>ANSWER _____</p>	e. Technology or social media

LESSON 5



Better Choices When Eating Out

Concept

Although most children consume enough protein on a daily basis, many have never learned what foods provide protein and where those foods come from. This lesson teaches children about the sources of protein foods and why protein foods are an important part of the diet.

Background

In 2012, almost 90 percent of families with children had at least one parent employed, and both parents were employed in almost 60 percent of families (1). Busy work schedules can often lead to both parents getting home too tired to prepare a healthy meal. The easiest option for some parents may be to gather the family and head to a local favorite restaurant. This is just one of many scenarios that have become a common occurrence in the busy lives of families today. In fact, in 2012, nearly half of all food expenditures occurred outside the home (2).

IMPACT OF EATING OUT ON HEALTH

The significant increase in childhood obesity over the past 40 years has sensitized nutrition and health professionals to the importance of teaching children simple strategies to help them achieve and maintain a healthy body weight. One of these strategies is to teach them how to make better choices at restaurants. The current food environment is considered obesogenic because it promotes obesity by providing high energy foods. In fact, having access to more fast food restaurants compared to full-service restaurants has been associated with a greater body mass index (BMI) (3). Bowman et al. (4) examined national patterns of fast-food consumption among children to determine whether fast food decreases diet quality in ways that might increase their risk for obesity. They reported that on a typical day, approximately one third of children ate fast food. In addition, fast-food consumption was common among all age groups, sexes, household income levels, racial/ethnic groups, degrees of urbanization, and regions of the country. Fast-food consumers also ate more total fat, more saturated fat, more total carbohydrate, more added sugars and sugar-sweetened beverages, less fluid milk, and fewer fruits and non starchy vegetables, differences that were statistically significant in most age categories.

Unhealthy options are not limited to fast food restaurants. A 2008 study found that a majority of children's menus at the largest chain restaurants offered high calorie, high fat, fried options (5). Surprisingly, most of the children's meals were of poor nutritional quality in all of the full service restaurants that were reviewed.

These data highlight the importance of choosing healthier options at restaurants, especially fast food restaurants. Completely eliminating fast food and dining out is not realistic for most families. Instead, making small, healthy changes when eating out can help families choose more nutritious meals that contain less fat, added sugar, and calories. This in

turn may help decrease the risk for obesity by preventing further weight gain (6). Initially, children and their families may make only one small change, but because small changes add up, they have the potential to make a big impact on the meals chosen at restaurants, which can positively impact weight (6).

STRATEGIES FOR MAKING HEALTHIER CHOICES

Regardless of whether it is a fast food or a full service restaurant, there are many small changes children can make during their dining experience that can help them make better food choices. Many restaurants offer delicious meals that are low in saturated fat, trans fat, and cholesterol (7). One thing children can do before arriving at the restaurant is to encourage their families to use the restaurant's website to identify healthier options together. Some restaurant websites offer the nutritional facts for their menu items online. If a restaurant does not provide the nutritional facts online or the family does not have the opportunity to review that information in advance, children can read the descriptions of the food on the menu board/menu to help them detect items they should refrain from choosing. Certain descriptive words can help children decide whether a food is higher or lower in fat (Table 1). For example, dishes labeled deep-fried, pan-fried, creamy, or crispy are usually high in calories, unhealthy fats, and sodium (7). A healthier option is to choose foods that are labeled as baked, broiled, steamed, grilled, or roasted. Another simple change is to replace sweetened beverages with water or sugar-free options. This will help decrease the amount of calories for the entire meal.

Table 1. Words used to describe foods higher and lower in fat.

DISHES USUALLY HIGH IN FAT	LOW FAT SUBSTITUTES
Fried	Baked
Deep Fried	Broiled
Pan Fried	Steamed
Breaded	Grilled
Crispy	Roasted
Creamy	Sauces with tomato or Broth Base
Alfredo	



PORTION SIZES

Equally important is the portion size. Portion sizes have increased significantly over the past 30 years, and the portions offered at restaurants are much larger than needed for one meal. Families can share entrées (and desserts) or put half of the meal in a to-go box immediately after receiving the entrée to enjoy at another time. This way they are not tempted to overeat, and they will have extra food to eat for lunch or dinner the next day. Incorporating changes such as these can help move families and their children toward a healthier lifestyle. These are just a few ideas to help families make better choices when dining out at fast food or full service restaurants.

SUMMARY

While it may not be possible to completely avoid eating out because of busy schedules, families can use the strategies discussed above to make these meals as healthy as possible. This lesson teaches children some easy ways of identifying healthier options that can be shared with family members at home.

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5th Grade Lesson

LEARNING OBJECTIVES

The students will:

- identify items on menus that should be avoided based on descriptive words such as fried, crispy, and creamy.
- develop lower-fat alternatives for common meal options at different restaurants.

BEHAVIORAL OBJECTIVE

The students will:

- choose lower-fat menu items when eating out.

QUESTIONS TO TEST OBJECTIVES

Your Healthy Plate Protein by Katie Marsico

1. Which of these foods contains the least amount of fat?
 - a. Deep-fried chicken
 - b. Crispy chicken
 - c. Creamy chicken Alfredo
 - d. Roasted chicken
2. Which of the following would be the best choice for making a crispy chicken sandwich into a lower fat meal?
 - a. Ask for it to be breaded
 - b. Ask for the chicken to be grilled
 - c. Ask for more toppings
 - d. Ask for a whole-wheat bun

FLORIDA STANDARDS

LEARNING ACTIVITY

LACC.K12.SL.1.2: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

HE.5.B.3.5: Select a healthy option when making decisions for yourself and/or others.

HE.5.P.7.1: Model responsible personal health behaviors.

PHYSICAL ACTIVITY

PE.5.C.2.1: Apply purposeful movement to a variety of movement settings to include designing and performing movement routines.



Learning Activity

MATERIALS

- Descriptive Word cards, template provided
- Tape
- Descriptive Word Glossary, provided Make-Over worksheets, provided

PRIOR TO ACTIVITY

Print Descriptive Word cards and cut along the lines. Make enough copies of the Descriptive Word Glossary for each student and 6 copies of each Make-Over worksheet (for a total of 24 pages).

NOTE: laminating the Descriptive Word cards will help preserve the cards for future lessons but may raise the cost of materials.

ACTIVITY INTRODUCTION

Today, I'd like to talk to you about eating at restaurants. Raise your hand if you like to eat out. What is your favorite place to eat when you go out to eat? Allow a few students to answer. Who can think of a problem with eating out a lot? Portion sizes tend to be too large, which may tempt you to eat too much. Also, restaurants like fast food restaurants offer very high calorie, high-fat foods that are low in nutrients. Do you think it is possible to make better choices when eating out? Yes, there are many ways to make better choices when eating out. Let's think about the problem of high-calorie, high-fat menu options. Even though you don't always choose where the family goes out to eat, you can still choose what you want from the menu. There are certain words used to describe the foods listed on the menu that can help you determine whether it is very high in fat. Distribute one copy of the Descriptive Word Glossary to each student. Here is a glossary of words commonly used to describe foods on a menu. I'm sure you are familiar with many of the terms, but I will give you a minute to read them. Please look up at me when you're finished reviewing them. Allow enough time for the students to read the glossary. Let's work together to decide which of these words describe "foods usually higher in fat" or "foods usually lower in fat". Split the board into the two sections: you may print the headings provided with this lesson and tape them to the board, or simply write the headings directly onto the board. Once the headings are in place, tape the Descriptive Word Cards provided on the board under the correct heading as the class reviews them. The words should be divided into the following categories:

FOODS USUALLY HIGHER IN FAT

Fried
Creamy
Crispy

FOODS USUALLY LOWER IN FAT

Baked
Broiled
Grilled
Roasted
Steamed

Who can spot a word from the glossary that they think belongs under the "Foods usually higher in fat" category? Call on a student, and ask them to read the definition of the word. If they are correct, tape the word under the correct heading. If they are not correct, review the word and place it under the other heading. Fried foods are cooked in hot oil. This usually results in the food having a lot of fat. So it belongs under foods high in fat. Stick the "fried" word card under the correct category. Look at the rest of

the words. Who can find another word that suggests that a food has been fried? Crispy! So this word also belongs under the "Foods usually higher in fat" category. Now, let's try to categorize some of the others words. Who can find a word that would be a good substitute for a fried food? Any of the words in the table under the "Foods usually lower in fat" would be good options. What other word belongs under "Foods usually higher in fat?" That's right. Creamy. Creamy foods are usually loaded with fat, which gives them that yummy taste and texture. A good substitute for a creamy sauce is one made with tomatoes like a marinara. Have students read the definitions of each word as they categorize the rest of the words in the glossary.

These words can help you make decisions about some entrée options, but they may not always be there to help you. Sometimes you may have to think on your feet. For example, does a side salad contain any of the words we discussed? No! But a side salad is a good option for a side, especially when it is substituted for a higher fat food like French fries! What about a dessert like chocolate cake? Does it contain any of the words we discussed? No! Who can think of a lowerfat substitute for dessert? A fruit salad! What are some added benefits of choosing vegetables and fruits as sides or desserts? They contain important vitamins and minerals and help us incorporate all the food groups into our diet. But what if you really want some of that chocolate cake? What could you do to make sure you are not eating all of those calories and fat in that big piece? Share it with a family member.

ACTIVITY DIRECTIONS:

Now that you've learned some strategies to use at restaurants, let's practice them on some menu items you might find when eating out. I am going to have you work in pairs to complete this worksheet. Distribute one Make-Over Worksheet to each student. Each pair of students should receive the same worksheet. Make sure each pair of students knows that they are to work together. Each worksheet will have an example of a meal you might order at a restaurant. What you need to do is figure out which substitutions you can make to lower the fat content of the meal. You and your partner will have about 5 minutes to complete the exercise. Allow enough time for each group to complete the exercise. When most of the class seems prepared, call on students from different groups to share their answers. Here is an example of some suitable answers:

FAST-FOOD RESTAURANT	MEXIAN-STYLE	ASIAN-STYLE	ITALIAN-STYLE
The crispy chicken could be switched to a grilled, baked, or roasted chicken. The fries could be substituted with a small serving of fries or a side salad.	The burrito could be substituted for one with grilled meat, or even just beans. Salsa or rice and beans could be ordered in place of the queso.	Chicken fried rice could be substituted for a steamed rice dish, or plain white rice. The egg rolls could be substituted with dumplings or green beans.	Alfredo sauce could be substituted with tomato sauce. Mozzarella sticks could be substituted with the side salad or the grilled vegetables.

Roasted

Broiled

Creamy

Fried

Grilled

Crispy

Baked

Foods Usually

Higher in Fat

Steamed

Foods Usually

Lower in Fat

Words Used to Describe Foods



Baked	Cooked in an oven using dry heat. This method usually refers to making cakes and breads, but it can be used for cooking other foods like baked chicken.
Broiled	Cooked directly under extremely high heat. This type of cooking method is very similar to grilling.
Creamy	Prepared using a lot of heavy, high-fat cream. Lower-fat options are sauces made from tomatoes or soups made with broth instead of cream.
Crispy	This term usually means the same thing as fried. It is a synonym!
Fried	Cooked in very hot oil or fat. Foods cooked this way usually absorb a lot of fat during the cooking process.
Grilled	Cooked on a metal frame or a grill over fire. This method is usually used for meats, but also can be used to make delicious vegetable recipes!
Roasted	Cooked with dry heat in an oven. This type of cooking method is similar to baking, but usually refers to cooking meats and vegetables.
Steamed	Cooked with steam, which is created when water is boiled. This method is usually used for vegetables.

Meal Makeover!

An example of a typical meal available at a **fast-food** restaurant is pictured below. How can you make this a **lower-fat meal**? Recall the strategies and preparation methods discussed in class. Hint: There is more than one right answer!

Typical Meal:

Crispy chicken sandwich and a large side of French fries



Other side options:



Small side of French fries



Side salad



Large side of fried onion rings

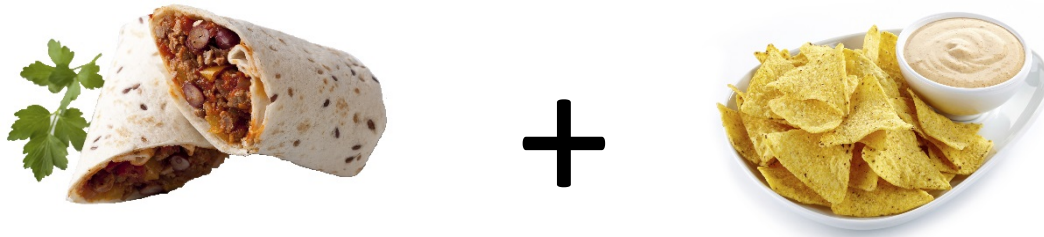
What changes would you make to lower the fat content of this meal?

Meal Makeover!

An example of a typical meal available at a **Mexican-style** restaurant is pictured below. How can you make this a **lower-fat meal**? Recall the strategies and preparation methods discussed in class. Hint: There is more than one right answer!

Typical Meal:

Carnitas burrito (fried beef) and a side of chips and queso (a creamy dip)



Other side options:



Chips and salsa



Rice and beans



Deep-fried churro

What changes would you make to lower the fat content of this meal?

Meal Makeover!

An example of a typical meal available at an **Italian-style** restaurant is pictured below. How can you make this a **lower-fat meal**? Recall the strategies and preparation methods discussed in class. Hint: There is more than one right answer!

Typical Meal:

Pasta with a creamy Alfredo sauce and a side of crispy mozzarella sticks



Other side options:



Fried calamari



Side salad



Grilled vegetables

What changes would you make to lower the fat content of this meal?

Meal Makeover!

An example of a typical meal available at an **Asian-style** restaurant is pictured below. How can you make this a **lower-fat meal**? Recall the strategies and preparation methods discussed in class. Hint: There is more than one right answer!

Typical Meal:

Chicken fried rice and a side of crispy egg rolls



Other side options:



Fried wontons



Tempura (fried) vegetables

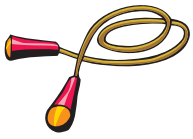


Steamed dumplings



Steamed green beans

What changes would you make to lower the fat content of this meal?



Physical Activity: What's Your Move

MATERIALS

- Sufficient room and floor space for all students to perform the Pilates poses

ACTIVITY DIRECTIONS

We will now test our skills even further, but in a much more fun way! First, I'll need you to get into groups based on the type of restaurant you were assigned for the activity we just completed. This means you will be in the Fast-Food team, Asian-style team, Italian-style team, or Mexican-style team. Each team must come up with two dance moves: one for a food that's probably high in fat, and one for a food that's probably lower in fat. Allow 2 minutes for each team to come up with their moves.

Call the Fast-Food team to the front of the room and ask them teach the rest of the class their dance moves.

I am going to call out the names of some foods that are typically found in fast-food restaurants. If you think it is a food that is high in fat, everyone will do the high-fat dance move. If you think it is a food that is usually lower in fat, everyone will do the low-fat dance move. Call out some options from fast food restaurants (see table below for ideas). Allow the students to do each move for about 15 seconds before calling out the next food. When mentioning a high-fat option, ask the students to think of a lower fat substitute after they do their dance move.

Repeat the activity for each of the restaurant teams, or for as many teams as time allows.

FAST-FOOD RESTAURANT	MEXIAN-STYLE	ASIAN-STYLE	ITALIAN-STYLE
Fried chicken nuggets (high-fat)	Lasagna Fritta. Hint- Fritta means fried! (high fat)	Chicken fried rice (high fat)	Rice and beans (low fat)
Crispy fish sandwich (high-fat)	Roasted Asparagus (low fat)	Honey crispy shrimp and broccoli (high fat)	Hard shell tacos. Hint- the shells are hard because they're fried! (high fat)
Side of sliced apples (low fat)	White chocolate cheesecake (high fat)	Steamed vegetables (low fat)	Three crispy churros (high fat)

With some of the high-fat options, a lower-fat substitute could simply be to get a smaller size or to share it with a family member!



LESSON 6



Advocating for Healthy Food At Home

Concept

While the benefits of providing nutrition education in the school environment have been documented, extending this knowledge to the home environment and reaching the parents is critical in supporting healthy choices for children. Most children are not responsible for purchasing food for consumption at home, so teaching them to be advocates for healthy food can be an important strategy for encouraging parents to provide healthier food choices for their children. Identifying barriers to healthy eating at home and devising ways to overcome these barriers is an important first step in equipping children with the ability to advocate for healthy foods at home. This lesson gives students the opportunity to practice talking to their parents about overcoming barriers to healthy eating.

Background

While it is important to teach children about nutrition and making good food choices at school, practicing what they learn at school can be difficult for children when school is not in session if healthy foods are not available in the home. Many school-based nutrition education programs include some aspect of parent education usually in the form of newsletters or activities, but these approaches may not reach every parent and may not be effective enough to promote change. Parents may have a variety of reasons for not providing healthy options at home. These reasons, or barriers, make it difficult to adopt healthier choices. Teaching children about potential barriers to healthy eating and strategies for overcoming those barriers can position them to advocate for healthy foods at home and help their parents overcome those barriers.

BARRIERS TO HEALTHY EATING

There are a number of barriers that can interfere with eating healthy at home. The National Institutes of Health (NIH) has identified time constraints, financial constraints, and habitual eating as some of the barriers to eating healthy (1). Limited nutrition knowledge also has been identified as a barrier to healthy eating (2), and of course there are others (see table below), including personal situations that can vary from one family to the next.

OVERCOMING BARRIERS TO HEALTHY EATING

While barriers to eating healthy in the home exist, they do not have to dictate the food choices made. Most barriers can be overcome in one way or another, and with the adoption of suitable strategies, eating healthy at home can become a common practice. For example, for families with time constraints, buying foods that are easy to prepare, such as canned or frozen vegetables, is one way to add a healthy and quick component to meals (1). Furthermore, preparing multiple meals ahead of time and eating them throughout the week can save time and energy.

When financial constraints present a barrier, reminding families that buying canned or frozen fruits and vegetables is often an economical alternative to fresh (1). Using coupons and checking weekly sales advertisements are other great ways to save money when grocery shopping (1).

Dietary habits can be one of the more difficult barriers to overcome. The NIH suggests making small substitutions and adjustments to meals at first, like using low-fat dairy products

in place of whole fat (1). Eventually, these changes will become habits that provide health benefits in the long run.

The following table lists additional barriers to eating healthy at home and ways in which they can be overcome.

BARRIER	OVERCOMING THE BARRIER
Taste Preferences	Preparing healthy foods can be done in a number of ways to satisfy all taste preferences.
Allergies	Designate a special shelf in the refrigerator or pantry where the foods containing the allergen will be stored. Cook and serve with separate utensils and dishes in order to avoid an allergic reaction.
Culture	Make substitutions. For example, brown rice can be used instead of white, and low-sodium products can be used, such as low-sodium soy sauce. Whole-grain options, as well as low-fat dairy choices, should be used whenever possible.
Limited Food Stores Near Home	Buy foods that store well. Buy in bulk as well as canned or frozen foods that will last until the next grocery trip.

SUMMARY

Multiple barriers exist to eating healthy in the home. Making children aware of these barriers and how they can be overcome is one of the first steps in encouraging children to advocate for healthy meals in the home.

REFERENCES:

1. National Institute of Health, Sisters Together Program. Barriers to Physical Activity and Healthy Eating. Available at: http://win.niddk.nih.gov/publications/docs/ST_resource_5.doc. Accessed July 14, 2014.
2. Health Canada. Food and Nutrition, Barriers and Solutions. February 2008. Available at: <http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/maintain-adopt/obstacles-eng.php>. Accessed July 14, 2014.

5th Grade Lesson

LEARNING OBJECTIVES

The students will:

- identify barriers to eating healthy at home.
- practice advocating for healthy foods at home by explaining ways to overcome barriers.

BEHAVIORAL OBJECTIVE

The students will:

- advocate for eating healthier foods at home.

FLORIDA STANDARDS

LEARNING ACTIVITY

LACC.5.SL.1.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

PHYSICAL ACTIVITY

HE.5.P.8.1 Persuade others to make positive health choices.



Learning Activity: Breaking Barriers at Home

PRIOR TO ACTIVITY

Create two columns on the board with markers or chalk. Label the first “barriers” and the second “breaking the barriers.” Print one “Breaking Barriers” handout for each member of the class. Print and cut out the Barrier Scenarios.

ACTIVITY INTRODUCTION

Today, we will learn about advocating for healthy food at home. To advocate means to support or urge for a certain cause. While it may seem like the adults make the decisions on what you eat at home, you have the power to influence and advocate for healthy foods at home. Today we will learn about potential barriers that can keep us from eating healthy at home and how we can overcome these barriers.

ACTIVITY DIRECTIONS


- 1. First, it is important to realize that there can be barriers to eating healthy at home. Can anyone tell me what the word “barrier” means? Call on one student and allow him or her to answer. Great job! A barrier is a law, rule, problem or situation that makes something difficult or impossible. So, related to our lesson today, a barrier is something, most likely a situation, that would make it difficult to eat healthy foods at home.*
- 2. Let’s do a demonstration to make sure everyone understands what is meant by a barrier. I need four volunteers for this demonstration. Raise your hand if you would like to volunteer. Select four students and ask them to come to the front of the room. Now, suppose I want to walk to a spot just over there. Point to a spot a short distance away from where you are standing. I want the four of you to create some sort of barrier that will block my path and make it difficult for me to get to that spot. Does that make sense? Allow the students to respond. Let’s begin. Attempt to walk to the designated point. Did everyone see how the students created a barrier that made it difficult for me to get where I wanted to go? (Thank the students and ask them to return to their seats.)*
- 3. The students created a physical barrier that got in my way, but not all barriers are ones that you can see. For example, a barrier to eating healthy might be due to not knowing enough about nutrition to select the best foods to eat. Write lack of nutrition knowledge under the barriers column on the board. Another example of a barrier to eating healthy at home might be taste preferences. It’s common to think that healthy foods don’t taste as good, so the adults in our homes may not want to buy them. Write “taste preferences” under the barriers column.*
- 4. Another common barrier to eating healthy at home could be that someone in the family has a food allergy. Write “allergies” on the board under the “barriers” column. If someone in our family has an allergy to a healthy food such as fish, low-fat milk, or nuts, it may prevent everyone else in the household from eating such foods.*
- 5. Now that we understand what a barrier is, let’s brainstorm additional barriers to eating healthy at home. Allow students to call out barriers to eating healthy at*

NOTE TO EDUCATOR

For this activity, students will create posters to reinforce one of five MyPlate key messages.

MATERIALS

- Breaking Barriers at Home handout, provided
- Barrier Scenarios, provided



home. Write only feasible barriers under the “barriers” column. (Examples of feasible barriers include, but are not limited to: lack of nutrition knowledge and skills, inadequate cooking skills, culture, cost, time constraints, limited food stores around home, lack of preparation space/materials, etc.)

6. You did a great job of identifying some of the barriers to eating healthy at home!
7. Just because these barriers exist, it doesn’t mean that we can’t eat healthy at home. We can overcome all of the barriers we have listed and still eat healthy at home!
8. As a class, let’s brainstorm ways to overcome each of the barriers we have listed on the board. For example, our first barrier to eating healthy at home is taste preferences. Sometimes the adults in our homes may not think that healthy foods taste good, but we know this isn’t true. To overcome this barrier, we can explain to the adults in our home that healthy foods can be prepared in many different ways, such as grilling or with seasonings, to meet everyone’s taste preferences. In addition, when we eat healthy foods that taste good, they can help us grow and stay healthy. Write these strategies under the “Breaking the Barriers” column next to taste preferences.
9. Now, as a class, let’s come up with ways to overcome the rest of the barriers we have listed on the board. Allow students to come up with ways to overcome each of the barriers on the board and write them under the “breaking the barriers” column. Great job everyone! Here is a handout listing examples of barriers, as well as strategies for overcoming them and some of the benefits of eating healthy. Distribute the “Breaking Barriers at Home” handout.
10. Next, we are going to practice advocating for eating healthy at home using strategies for overcoming the barriers to healthy eating. For this activity, you will be assigned to work in groups of four. Each group will get a description of a situation that presents a barrier to eating healthy at home. Your job is to role play what it would be like to teach the adults in your home to overcome the barrier. →Divide students into groups and distribute one Barrier Scenario to each group. You can use the list we have created on the board as well as the “Breaking the Barriers” handout as references to help with each scenario. Make sure you practice, because when we are done, each group will role play for the class. You have 5 minutes to prepare. Allow students to work in their groups for five minutes.
11. Is everyone ready? Would the first group present their scenario? Choose a group to role play their scenario for the class. Great job, you did a wonderful job of overcoming the barrier and advocating for healthy foods at home. As time allows, have each of the remaining groups present their scenarios to the class.
12. Great job everyone! I hope you feel confident that you can help your family break some of the common barriers of eating healthy at!

Breaking Barriers at Home



Barrier	Breaking the Barrier
<p>Taste Preferences Some people don't think healthy foods taste good.</p>	<p>Healthy foods are delicious. Tell the adults in your home about all of the wonderful healthy foods you have tried at school.</p>
<p>Allergies Someone in your household may have an allergy to a healthy food</p>	<p>Designate a special shelf in the refrigerator or pantry where the foods containing the allergen will be stored. Cook and serve with separate utensils and dishes in order to avoid an allergic reaction.</p>
<p>Cost Some people believe that healthy foods are too expensive.</p>	<p>Using coupons and the weekly grocery store deals can save a lot of money. Buying canned or frozen fruits and vegetables and frozen meats is a good way to save money.</p>
<p>Culture The foods eaten at home could be a cultural tradition.</p>	<p>Make substitutions. For example, brown rice can be used instead of white rice. Low sodium products like such as low---sodium soy sauce can be used instead of regular soy sauce.</p>
<p>Limited Time Some people say that making healthy meals takes too long.</p>	<p>Prepare healthy meals ahead of time, or make them in bulk and eat leftovers.</p>
<p>Habits Some people may be in the habit of making less healthy food choices.</p>	<p>Try introducing healthy foods a little at a time. Eventually, eating the healthiest foods will become a habit.</p>
<p>Lack of Nutrition Knowledge Some people may not be aware of the healthiest foods and the benefits they provide.</p>	<p>Use this as an opportunity to teach the adults in your home about what you have learned in YUM about healthy foods and the benefits they provide.</p>
<p>Limited Food Stores There may not be a lot of places around your home to buy healthy foods.</p>	<p>Buy foods in bulk and foods that can be frozen to last until the next grocery trip.</p>

What can eating healthy do for me?

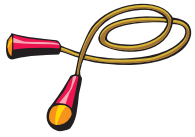
The following is a list of some of the benefits of eating healthy at home:



- Eating healthy, well---balanced meals and snacks is very important for your growing brain and body.
- Eating healthy foods can help you focus better at school and may help to improve your schoolwork.
- When you eat healthy, your muscles can get stronger and you will stay healthier, giving you more energy to do the activities you love.
- Eating healthy at home can provide you with the opportunity to spend time with your family. You can help prepare meals and enjoy sitting around the table and having a nice conversation.
- Eating healthy at home gives you the chance to be a role model. When you eat healthy, you are serving as a role model for your siblings, parents, and anyone else who is in your home.

YUM 5th L6 Learning Activity – Breaking Barriers Scenarios

- Peggy’s sister Theresa is allergic to milk. Their mom is very nervous about Theresa having an allergic reaction. She doesn’t buy milk and it is never in the home. Peggy knows how important milk is for her and about all of the nutrition benefits it can provide. **Pretend you are Peggy and advocate to your Mom to overcome the barrier of food allergies.**
- Jose’s dad dislikes green beans and refuses to buy them. It just so happens that one of Jose’s favorite foods is green beans. He is confident that his dad would really like them too if he prepared them in a delicious way. In addition, Jose is aware of all of the nutrition benefits green beans can provide. **Pretend you are Jose and advocate to your Dad to overcome the barrier of taste preferences.**
- Cedric and his uncle don’t live near a big grocery store. For this reason, Cedric’s uncle buys most of the groceries at the convenience store close to their house. The foods he buys aren’t always the healthiest options but Cedric knows there are ways to eat healthy even without a grocery store near by. **Pretend you are Cedric and advocate to your uncle to overcome the barrier of limited food stores.**
- Lillian’s favorite meal is baked chicken, sautéed broccoli, and mashed potatoes. If it were up to Lillian, she would eat it at least once a week. But, her parents think it is too expensive to buy and make so she only gets the meal on special occasions. Lillian has learned that eating healthy doesn’t always have to be expensive and knows some of the benefits of eating healthy as well. **Pretend you are Lillian and advocate to your parents to overcome the barrier of cost.**
- Taylor and his sister Keisha both are very busy with after school activities and sports. Their babysitter is in charge of getting them from place to place as well as feeding them dinner. Every day the babysitter get Taylor and Keisha fast food because she says there is no time to make a healthy meal. Both Taylor and Keisha know the benefits of eating healthy meals and that it is possible to eat them even with a busy schedule. **Pretend you are Taylor and advocate to your babysitter to over the barrier of limited time.**



Physical Activity: NamaHealthy

PRIOR TO ACTIVITY

If a projector is not available, and you do not feel comfortable demonstrating the stretch positions, print the "Namahealthy Stretch" posters for each position so they are large enough for the whole class can see. If a projector is available, open the Namahealthy Stretch slideshow.

ACTIVITY INTRODUCTION

Now that you have learned about the barriers of eating healthy at home and how to overcome them, let's do some physical activity! Today we will perform a stretch routine. Today, each of the positions we do will relate to one of the benefits of eating healthy at home that can be obtained when you advocate to overcome the barriers of eating healthy at home. Follow along with the positions as I read something about each pose.

ACTIVITY DIRECTIONS

1. *If you feel comfortable, demonstrate each stretch to the students. If not, show the corresponding stretch from the PowerPoint slideshow or point to the appropriate stretch on the poster.*
2. *Because stretching is a calming exercise we are going to start by releasing all of our energy. When I say so, I want everyone to shake and wiggle your body and get all of your energy out. Allow students to shake and wiggle for ten seconds.*
3. *Slide one: Chair Stretch. I want everyone to get into the chair stretch by leaning back as if you were going to sit in a chair and raising your arms above your heads. Overcoming some of the barriers to eating healthy can allow us to enjoy quality meals together. The chair stretch should remind you of sitting around the table at a meal enjoying good, healthy food and the company of your family. Hold this position for ten more seconds, then move to the next stretch.*



4. *Slide two: Triangle. I want everyone to stand straight, with your feet wide apart. Take your left hand and touch your left foot. Extend your right arm straight up into the air. Your chest should be facing the front. When we eat healthy at home, we have the opportunity to be role models. The Triangle Stretch represents how you*

MATERIALS

- Namahealthy Stretch posters/ PowerPoint

can be role models to younger and older siblings, as well as to your parents and other family members or friends who may be joining you at mealtimes. Hold this position for ten seconds before instructing the students to change sides and stretch down to touch their right foot and extend their left arm into the air.



5. Slide three: Warrior Stretch. I want everyone to do the warrior stretch with your right leg bent first. Spread your legs and make sure your right foot is perpendicular to your left foot. Now lean on your right leg and spread your arms to your sides. When you eat healthy meals and snacks, your muscles and bones can grow big and strong. The warrior stretch signifies strength. You can be an image of strength when you overcome the barriers to eating healthy foods at home. Hold this position for five more seconds. To make sure you are balanced, switch your warrior stretch to the other side. Hold the position for ten more seconds.



6. Slide four: Balance Stretch. Now, balance on your right leg, with your left foot bent and resting against your left leg at a height that is most comfortable for you. Eating healthy meals and snacks can help you focus, which may help you do better in school. Just like paying attention at school requires a lot of focus, balancing on one leg like you are doing requires a lot of focus. Keeping your eyes focused on a stable object or spot may help make it easier for you to keep your balance. Continue balancing for ten more seconds. Now, switch to balancing on your left leg. Hold the position for ten more seconds.



7. *Slide five: Comfortable seated position. This next pose is one of the most popular stretches. It is called the comfortable seated position. Let's get into position, sit on the ground with your legs crossed or however is most comfortable for you. When you are in this position, you are sitting on the ground, which means you have a very strong foundation that can help you be very stable and allow you to focus. Eating healthy foods provides you with the foundation you need to grow and stay healthy. Additionally, if we have a strong foundation, advocating for healthy foods and overcoming barriers will be much easier. Hold the position for another ten seconds.*



8. *If time permits, go through the entire sequence one more time, holding each position for twenty seconds. Now that you have learned new stretches and how they relate to the importance and benefits of eating healthy, let's go through the sequence one more time.*
9. *If time does not permit or after going through the sequence a second time: Great job everyone! Your stretching poses were wonderful.*
10. *OPTIONAL: After a stretching, it is always important to thank our bodies for what they do for us. We do this by saying "Namaste" but today, in order to thank our bodies, on the count of three, I want everyone to say "namahealthy," one, two, three: allow class to respond.*



EVALUATION STRATEGY

1. Which of the following is true about barriers?
 - a. They are impossible to overcome
 - b. They can make something more difficult
 - c. They do not exist for eating healthy foods
 - d. They are made up by the adults in our home
2. Which of the following is not a barrier to eating healthy at home?
 - a. Cost
 - b. Too much time
 - c. Culture
 - d. Lack of nutrition knowledge