6: MyPlate - Grains and Fiber
Activity A: Banana Burritos

**Objectives:**
Participants will be able to:
- Choose whole grain foods using a Nutrition Facts Label
- Identify 1 benefit of dietary fiber

**Materials:**
- MyPlate poster (or handouts)
- Home-made digestive system OR 22 foot long rope (see included directions)
- Grain posters with layer picture cards
- Measuring spoons
- Paper plates (one per participant)
- Plastic butter knives (one per participant)
- Sharp knife

**Food Supplies (for approximately 20 participants):**
- 20 whole wheat tortillas
- 1 (20 oz) jar of peanut butter
- 1 ½ cups of strawberry jelly
- 3 cups of seedless raisins
- 10 large bananas

**NOTE: PRIOR TO THE LESSON, MAKE THE HOMEMADE DIGESTIVE SYSTEM (SEE HANDOUT FOR INSTRUCTIONS!)**

1. **TASK:** Hang up the MyPlate poster or pass out handouts.

2. **SAY:** Today we are going to learn about the grain group. We will talk about why whole grain foods are healthy. To go along with our lesson, we are going to make Banana Burritos, a snack that includes whole grains!

3. **SAY:** Look at MyPlate and show me with your fingers how many food groups there are.

   **ANSWER:** Five

4. **SAY:** Any food made with wheat, rice, pasta, or corn is considered a grain.

5. **SAY:** Grains are important because they provide our bodies with lots of carbohydrates. Carbohydrates are a nutrient that gives us energy.

6. **ASK:** What do we need energy for?

   **ANSWER:** everything-move, jump, talk think, breathe, etc (allow participants to give a few examples before explaining that you need energy for everything)

7. **SAY:** Everybody stand up. I am going to say some examples of grains and foods made from grains. Jog in place every time I say a grain that you eat. The jogging will represent the energy grains give you.
Bagels | Cornbread | Grits | Pancakes | Rice | Tortillas
Bread  | Crackers  | Muffins | Pita bread | Taco Shells | Pretzels
Cereal | Oatmeal   | Noodles | Popcorn   | Spaghetti | Buns

8. **SAY:** It is very important to eat foods from the grains group, but especially whole grains. Whole grains are grains that include all parts of the grain.

9. **TASK:** Display the grain poster.

10. **SAY:** Here is a poster that shows a kernel of wheat. There are three major parts:

   - the outer layer or bran
   - the germ or the part that grows into the plant
   - the endosperm or the part that supplies “food” for the seed to grow

11. **SAY:** All three parts of this wheat kernel are important for our health.

12. **TASK:** Hand out the 3 grain layer picture cards to 3 different participants: bran, germ, and endosperm.

13. **TASK:** Have the 3 participants holding the picture cards come to the front of the room.

   **ASK:** Who has the bran layer? Please read the nutrients listed on the picture card aloud. Which nutrients do we lose when we don’t eat the bran layer?

   **ANSWER:** lose fiber, B vitamins, minerals

   **SAY:** Vitamins and minerals are nutrients that help keep our body running smoothly. We will talk about the importance of fiber in a moment.

   **ASK:** Who has the germ layer? Please read the nutrients listed on the picture card aloud. Which nutrients do we lose when we don’t eat the germ layer?

   **ANSWER:** lose antioxidants, vitamin E, B vitamins

   **SAY:** Antioxidants help lower the risk of diseases like cancer and heart disease.

   **ASK:** Which layer is left? Please read the nutrients listed on the picture card.

   **ANSWER:** the endosperm; carbohydrates and protein
ASK: Why are carbohydrates important?

ANSWER: Carbohydrates give us energy.

SAY: Protein helps our bodies build and repair muscle. Protein helps your body grow too.

There are two types of grains: whole grains and refined grains. Whole grains contain the entire grain: the bran, germ and endosperm. Whole means all. The bran and germ are removed in refined grains. When that happens, nutrients such as fiber, vitamins and minerals are lost. White flour is an example of a refined grain.

If you see the word refined or “enriched”, is it a whole grain?

ANSWER: No

Refined means they took out the bran and the germ layers.

MyPlate recommends we eat at least 6 servings/ounces of grains per day. It also recommends that 3 of those grains should be whole grains.

The grains group slogan is “make at least half your grains whole grains”.

Examples of one serving or one ounce from the grains group include:

- 1 slice of bread
- 1 cup of breakfast cereal/cold cereal
- ½ cup cooked cereal/oatmeal, rice or pasta
- ½ bagel
- 1 small muffin

It is very important to eat foods from the grains group, but especially whole grains. Whole grains help us lower our risk of cancer, heart disease, diabetes, and obesity. Whole grains also taste good and help us feel full. They are low in fat and many have fiber that helps our digestive system, the body system that breaks down food.

Fiber helps our digestive system work. It is like a broom and “cleans us out.” Fiber helps us feel full and is not only found in grains, but in fruits, vegetables, nuts and seeds, too. It is very important for us to eat foods with fiber in them.

We are going to look at the length of the digestive system.

Show the 22 foot rope (or the Homemade Digestive System). Ask 2-4 participants to hold it up from end to end.
24. **SAY:** After you swallow food it goes down your throat, into your stomach, and through your intestines. This journey is about 22 feet long. Why?

25. **ASK:** What did we say sweeps out your digestive system?

**ANSWER:** fiber

26. **SAY:** Many whole grains provide our bodies with fiber, but so do fruits and veggies!

27. **SAY:** Today we are going to make a snack using whole grains and foods that are good sources of fiber. We are going to make Banana Burritos!
**Fun Food Activity**

1. **TASK:** Ask if any of the participants have food allergies to any of the ingredients. If so, **DO NOT ALLOW THEM TO PARTICIPATE.**

2. **TASK:** Have the participants wash their hands.

3. **TASK:** Display the ingredients.

4. **TASK:** Have the participants rinse the bananas.

5. **ASK:** What food or foods in Banana Burritos* are from the Grains food group?  
   **ANSWER:** Whole wheat tortillas

6. **ASK:** What food or foods in Banana Burritos* contain fiber?  
   **ANSWER:** Whole wheat tortillas AND raisins and banana

7. **TASK:** Hand out a paper plate, plastic knife and whole wheat tortilla to each participant.

8. **TASK:** Give each participant 1 tablespoon of peanut butter and 1 tablespoon strawberry jelly.

9. **TASK:** Have the participants spread the peanut butter on one side of the tortilla. Then have the participants spread the jelly on top.

10. **TASK:** Give each participant 2 tablespoons of raisins.

11. **TASK:** Have the participants sprinkle raisins over the jelly.

12. **TASK:** Give each participant ½ a banana.

13. **TASK:** Have the participants peel the banana and place at one end of the tortilla. Then have them roll the tortilla to cover the banana.

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**If someone has a peanut allergy, substitute soynut butter for peanut butter.
Make your own
Home-Made Digestive System!

Materials:
- 100 feet of clothesline cord (something fairly soft, preferably cotton or polyester)
- ½ gallon plastic container (to represent the stomach when full)
- One strip of cloth (100” x 7”, sewn into a tube)
- Ribbon or string (enough to make a bow)

Instructions:
1. Unravel the 100 feet of clothes line cord.
2. Cut a 12” piece from one end. Wrap both ends in scotch tape.
3. Measure and cut three pieces of cord (each 33-feet long). Wrap all ends in scotch tape.
4. Tie a knot at one end of the three cords to secure them together. You should have all three cords coming from this knot each about 33 feet long.
5. Secure the knotted end somewhere (such as under a table leg) so you can braid smoothly and evenly.
6. Braid the cord (Tip: Braid no more than 12 counts at a time, then pause and gently pull ONE of the three ends through the rest so it does not tangle).
7. When you have finished braiding the entire cord, you should have one braid about 25 feet long.
8. Tie it off with a strong rubber band.
9. Measure 5 feet from the rubber band and mark the place with a safety pin.
10. Pull the braid through the sewn tube of cloth until it reaches the safety pin.
11. At the point of the safety pin, tie a tight bow with the ribbon or string.
12. Gently gather the fabric so it ends at the end of the braid. Tie that end with a string too.
13. Punch a hole in the bottom of the ½ gallon plastic container. This hole should only be large enough to fit the braid.
14. Untie the knot at the top end of the braid and feed the cord through the hole until it’s close enough to the top of the container that you can reach it and pull it through. Re-knot the cord and pull it back down so the knot is just inside the container.
15. Punch a hole in the cap of the container. Push the 12-inch piece of cord through the hole and tie in a knot. Put the cap on the container.
16. Print smiling lips on a business card (or card stock), laminate it, and tape it to the loose end of the cord.
17. If you like, you can attach cards that explain what is happening.
Activity B: Terrific Trail Mix!

Objectives:
Participants will be able to:
- Define “whole grain” as a grain that contains all 3 parts of the kernel
- Define “refined” grains as grains that do not contain all 3 parts of the kernel
- Identify 1 health benefit of dietary fiber

Materials:
- “How much Fiber?” handout
- “Bread Nutrition Facts Labels” handout
- Snack size plastic baggies (one per participant)
- Bowls (for ingredients)
- Plastic spoons

Food Supplies (for approximately 20 participants):
- 5 cups of small pretzels
- 2 cups of whole wheat grain cereal (such as Cheerios)
- 5 cups of popped popcorn – low salt/butter
- 2 cups of dried fruit (raisins)
- 2 cups of sunflower seed kernels

NOTE: POP THE POPCORN PRIOR TO THE LESSON.

1. TASK: Review the information from last lesson:

   What are some examples of foods in the grains group?

   ANSWER: breads, cereal, oatmeal, rice, pasta, popcorn

   What did we say carbohydrates do for your body?

   ANSWER: they give you energy

   Remember from last time that we used the poster of a kernel of wheat to remove different layers. When we removed layers, did we lose nutrients?

   ANSWER: Yes

   SAY: We lose fiber, vitamins (B vitamins and vitamin E), minerals, and antioxidants when we removed layers.

   SAY: Remember, whole grains contain the entire grain (or all the layers in the kernel of wheat). In refined grains, the bran and germ are removed from the kernel. When that happens, healthy nutrients such as fiber, vitamins and minerals are lost.

   SAY: Choose whole grains more often because whole grains help us lower our risk of cancer, heart disease, diabetes, and obesity. Whole grains also taste good and help us feel full. They are low in fat and many have fiber that helps our digestive system.
Does anyone remember what we said fiber does for our bodies?

**ANSWER**: Fiber helps our digestive system work. It is like a broom and “cleans us out.”

**SAY**: Don’t forget that grains, nuts, seeds, fruits, and vegetables are all good sources of fiber.

2. **SAY**: Today we are going to review the grain group and why whole grains are important for our health.

3. **SAY**: Remember that whole grains help us prevent many diseases and illnesses from occurring as we get older and fiber helps “clean out” our digestive system. In addition, we should aim for the recommended amount of fiber each day. Fiber recommendations are based on calorie recommendations. We need to use our math skills to determine how much fiber we need. The recommendation is:

   14 grams of fiber per 1,000 calories consumed.

For example, if you need to eat 1500 calories you would add 14 plus 7 which equals 21. So you would need to eat 21 grams of fiber each day.

4. **ASK**: How much fiber do YOU need each day? Use ChooseMyPlate.gov to calculate your calories. Calculate your fiber based on your calorie needs.

   **ANSWER**: varies depending on calories

5. **SAY**: To determine if a bread is a whole grain and how much fiber it contains it is important to look at the nutrition facts label and ingredient list. A nutrition facts label can also tell us how much fiber is in bread (or other grain product).

6. **TASK**: Distribute the “Bread Nutrition Facts Labels” handout to the participants.

7. **SAY**: First we will look at the amount of fiber that different breads contain. There are two labels, “A” and “B”.

8. **ASK**: Which bread has the most fiber?

   **ANSWER**: “A”

9. **SAY**: We should also pay attention to the ingredients list to look for whole grains. If a bread is a whole grain, the ingredients list should say “Whole Wheat Flour” or “Stone Ground Whole Wheat Flour” or “Whole Bran Flour.”

10. **ASK**: Does “A” or “B” list whole wheat flour, stone ground whole wheat flour, or whole bran flour as an ingredient?

    **ANSWER**: Yes—“A” has whole wheat flour as an ingredient
11. **SAY**: We know that this product is whole grain because it has the word “whole” in the ingredients list.

12. **SAY**: Even though product “B” is brown in color, it isn’t a whole grain. Brown bread doesn’t always equal whole grain. You have to check the ingredients OR look for the words 100% whole grain on the package.

13. **SAY**: We know many whole grains have fiber, but so do some other foods. Today we are going to make a healthy whole grain snack that also contains good sources of fiber. We will be making Terrific Trail Mix, a fiber-rich snack that includes 3 food groups.


15. **SAY**: All of the ingredients in our snack are listed on the paper. Look for the amount of fiber in each food item. Add up the grams of fiber to determine how much fiber is in our trail mix. Write your answer on the bottom of the handout.

16. **ASK**: How much fiber is in our trail mix?

**ANSWER**: 8 grams of fiber

17. **SAY**: We are eating less than half of the amount of food listed on your handout, so we will be eating approximately 3-4 grams of fiber. Now that we know what’s in our healthy snack, let’s taste it!
**Fun Food Activity**

1. **PRIOR to LESSON:** Pop the popcorn in the microwave according to the directions on the package (cooking times may vary).

2. **TASK:** Ask if any of the participants have food allergies to any of the ingredients. If so, **DO NOT ALLOW THEM TO PARTICIPATE.**

3. **TASK:** Have the participants wash their hands.

4. **TASK:** Display the ingredients.

5. **ASK:** What food or foods in Terrific Trail Mix are from the Grains food group?

   **ANSWER:** Pretzels, Cereal, Popcorn

6. **ASK:** What food or foods in Terrific Trail Mix contain fiber?

   **ANSWER:** Pretzels, Cereal, Popcorn AND Dried fruit, Sunflower seeds

7. **TASK:** Place each ingredient in a separate bowl.

8. **ASK:** Place measuring cups and spoons in each bowl (1 Tbsp. raisins, sunflower seeds, and cereal; ¼ cup pretzels and popcorn)

9. **TASK:** Give each participant a snack size baggie.

10. **TASK:** Have participants go to each bowl and take 1 of everything.

11. **TASK:** Have participants shake their bags to mix items and enjoy!
How much fiber?

<table>
<thead>
<tr>
<th>Food</th>
<th>Amount of Fiber</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup of cereal (toasted oat)</td>
<td>3 grams</td>
</tr>
<tr>
<td>Pretzels</td>
<td>0 grams</td>
</tr>
<tr>
<td>¼ cup of sunflower seeds</td>
<td>3 grams</td>
</tr>
</tbody>
</table>

Add up the amount of fiber in our snack. What did you get? _______
Bread Nutrition Facts Labels

6. MyPlate = Grains and Fiber

Program Outline
- Text 2 behaviorally focused messages per week
- Target messages by school/area
- Evaluate the program using pre- and post-test surveys in program and control schools

Program Impacts
- Implemented Text2BHealthy in 19 schools across Maryland in 2014
- Over 2,600 parents enrolled in 2014, reaching an average of 25% of the parent population
- 94% read all texts
- 98% do something suggested in one of the texts at least some of the time
- 94% read all texts
- 50% of parents increased the variety of veggies consumed each day
- 74% of parents report eating fruits and veggies as snacks often or every day

Here is what parents said they liked most about Text2BHealthy:
- "I really felt like someone was writing directly for me"
- "I liked the ideas and suggestions about eating healthy and ideas for activities to do with my kids"
- "It keeps me informed about healthy issues and community events"
- "Whatever you told me was on sale that week, I went to my Giant and built our meal around those fruits or vegetables"

Parents play an important role in the development of their children's eating patterns and physical activities. In an effort to strengthen SNAP-Ed school programs through more parental involvement, the University of Maryland Food Supplement Nutrition Education (SNAP-E) program developed Text2BHealthy. Using text messaging, Text2BHealthy provides information to parents to help them reinforce nutrition information and behaviors their children are learning in school FSNE programs.

Messages sent to parents are targeted, actionable "nudges" about how they can be positive role models by eating healthy foods themselves and becoming more physically active. In addition, parents receive nutrition information that connects to what their children have learned in the classroom and practical ideas for implementing healthy eating behaviors in the home environment.

Text2BHealthy messages are carefully designed to reinforce FSNE school activities and nutrition education programs. For example,

To link with school activities:
- "This week is MSA testing week at Barclay Elementary. Make sure your child eats breakfast. A healthy start to the day will help them do well in school."

For program evaluation:
- "Since this week is MSA testing at Barclay, did your child eat breakfast before school? Reply to this message with '1' for yes or '0' for no."

To provide community information:
- "Happy Memorial Day Weekend! Plan a healthy BBQ - make sure you have a fruit & veggie. Giant has corn on the cob 10 for $2 and whole watermelon for $4.99."

To link to FSNE school programs:
- "Today @ Carver’s Field Day we celebrated physical activity by playing games from all over the world. Ask your child to describe a new game the family can play!"

"It gave me tips for new foods and how to prepare them"

TEXT2BHEALTHY FOOD AND FUN!

TEXTING TIPS FOR FAMILIES

Please sign up for this program only if it fits into your current texting plan. If you would like to receive free email messages instead, please email eatsmartmd@umd.edu

WANT TO MAKE HEALTHY CHOICES?

Text APPLE to XXXXX to receive tips every week on healthy eating and physical activity for you and your family.

FSNE

This material was funded by USDA's Supplemental Nutrition Assistance Program in cooperation with the Maryland Department of Human Resources and the University of Maryland. University of Maryland Extension programs are open to all citizens without regard to race, color, gender, ... Nutrition Assistance Program provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact the Maryland Department of Human Resources at 1-800-332-6347 or apply online at www.marylandsail.org.

FSNE

"This week Crellin students learned about farmers markets. We read books & tasted green beans, red peppers & apples. Ask your child to tell you more!"

For more information contact Laryessa Worthington at len@umd.edu

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