

Lesson 2: We Need All Five

45-60 minutes Whole group activity and partner activity

*A second adult would be helpful for the partner activity.

Activity Overview:

Students will learn that they need to eat from the Five Food Groups daily. Students will discover how writing tasks are more difficult with less than five fingers and daily activities are more difficult when we don't have foods from all five food groups. Students will also learn the basic facts about the Grain Group and which choices within that group may be better nutritional choices.

Objectives: Students will be able to:

- *Name the Five Food Groups
- *Identify foods that are part of the Grain Group
- *Work cooperatively with a partner
- *Basic understanding of how sugar is absorbed into the blood system
- *Follow oral directions to perform experiments
- *Measure ingredients
- *Use observation skills

Materials and Preparation: See page 2

Lesson Plan: See pages 3-7

Third Grade Science Docent Lesson 2

Materials and Preparation:

- 1) Laminated character name cards and board magnets -These were also used in lesson 1 (located in hanging file box)
- 2) 20 pieces of paper for Activity 1. Blank newsprint or half sheets of paper will work just fine. Students will be able to take this home after the lesson.
- 3) Grain Group plastic food models.
- 4) 20 copies "Facts from the Grain Group" experiment worksheet. Students will be able to take this home after the lesson.
- 5) Clear plastic 9 ounce solo cups. Each **pair** of students will need 2 cups. Cups are stacked into two categories. One says "flour" and the other cup "sugar." (Located on cart as well as some extras)
- 6) Plastic food containers with the following contents:
 - 2 containers with cornstarch
 - 2 containers with sugar
 - 2 containers with flour
- 7) 10- quarter (1/4) cup measuring cups (each pair of students receive 1 measuring cup)
- 8) 10- one teaspoon measuring spoons (each pair of students receive 1 measuring spoon)
- 9) 10- plastic knives (each pair of students receive 1 knife)
- 10) 10 bottles of red food coloring
- 11) Dragon body part for the Grain Group: one per class (in hanging file box) Classroom teacher will provide a small bulletin board area in which to display the dragon head and attach the first body part.

Lesson Plan: Lesson 2

Review:

Think back to the story we heard last time about the Royal Food Family and Little D.

**Show me with your hand how many food groups there are.*

5 but some kids may hold up 6 if they are thinking of the "other" food group.

** Does anyone remember which food group Sir Milkford the Scholar represents? Milk group* **Show character cards if prompts are needed.**

** What about:*

**King Henry the Egg = Meat Group*

**Princess Peapod = Vegetable Group*

**Queen Anna Banana = Fruit Group*

**Prince Waffle = Grain Group*

**In addition, take a few minutes to review rules:*

-Raise your hand if your have a question or an answer.

-Listen and follow directions.

-If the docent doesn't have an answer to a question, write it down and after the lesson we'll do our best to find the answer for them.

1. Start by asking:

**Why do you think you need foods from each of the five food groups everyday? Accept all reasonable answers.*

**What do you think would happen if a person only ate from 3 of the food groups? Or 2 of the food groups? His or her body wouldn't be getting everything it needs to stay healthy.*

2. Whole Group Activity 1:

**Look at your hands. What do your hand and the five food groups have in common? There are five food groups and the hand has five fingers.*

** Take out a pencil and I'll give you a piece of paper. I am going to give you some directions for our first activity.*

** Write your first name on your paper.*

Now, pretend you don't have a thumb. Write your **last name using just your other four fingers.*

Now, pretend you don't have a pointer finger. Using your thumb and the other three fingers, write your telephone number. **Some kids may not know their phone number. If they don't, have them write 1,2,3,4,5,6,7.*

**Now, pretend you don't have a middle finger. Using your thumb, pointer, and last two fingers, write our room number.*

**How easy is to write when you're missing one of your five fingers?*

**How easy would it be to stay healthy if you didn't eat one of the five food groups?*

Reinforce that students need all five food groups everyday. Each food group helps the body stay healthy in a different way. So to grow and stay healthy, you need to eat from every food group everyday.

3. Activity 2- partner activity

Today we are going to start learning about each food group. Today we will focus Prince Waffle and the Grain Group. Foods from the Grain Group include such foods as: bread, cereal, crackers, and pasta. Show Grain Group food models.

**Can you think of other foods that might belong in the Grain Group? Accept reasonable answers. Popcorn, rice, pretzels, tortillas, etc.*

**Some choices from the Grain Group are better than others. Today we are going to do an experiment that shows what happens when we eat foods from the Grain Group that include excess sugar. For example, a donut is made from flour (wheat) but it also has a lot of sugar and fat.*

** I am going to pass out a paper to you called "Facts from the Grain Group.". Please write your name at the top and then wait for instructions.*

** Please read along with your eyes as I read out loud.*
Read the title and the background information located on the worksheet. Discuss anything that you feel you need to address.

** Our experiment today is called "Sugar versus Starch" When you eat foods that are high in sugar, the food is absorbed quickly into your body, but then you will feel hungry again quickly. What might the problem be if you feel hungry again quickly? You might eat more than you really need and it could lead to weight gain. You also might feel tired because of the excess sugar and you won't have the energy you need to do your best in school and play.*

** You are going to work with a partner. It is best if students work with a child that is already close by. Suggest the classroom teacher help you with forming partners.*

It is a good idea to have another parent or the teacher help with the next few steps-it will go a lot faster.

** I am going to give you and your partner 2 cups. One is labeled "sugar" and the other is labeled "flour."*

** I am going to come by each of you and I want you to put $\frac{1}{4}$ cup of cornstarch in each cup. Demonstrate how to scoop out the cornstarch and scrape it with the plastic knife. As you move about the room you may want to tell them that cornstarch is a powder made from corn and used in cooking.*

** The cornstarch is just providing a base for the items we will put on top.*

**Next, you need to measure one teaspoon of sugar and put it in the cup labeled "sugar." You will put it on top of the cornstarch.*

**Now do the same thing with the flour. Measure one teaspoon of flour and put it on top of the cornstarch labeled "flour".*

** Lastly, you are going to put 10 drops of red food coloring on top of the sugar and 10 drops of red food coloring on top of the flour. The red food coloring represents the blood in your body. Do not stir or shake up the mixture. You are going to observe the contents in the cups with your eyes only.*

Demonstrate how to use the food coloring bottles.

As the students are observing, ask if anyone notices anything happening. The food coloring on the flour will just remain little droplets and the food coloring on the sugar gets absorbed into the sugar. Discuss how this is similar to how your blood in your body absorbs sugar quickly and flour absorbs slowly so your energy lasts longer.

Have students draw a picture of their observations in the space provided on the worksheet.

Closure:

*Discuss some things the students learned today. Possible items might include how we need foods from all five food groups, something about the Grain Group or the experiment.

*Listed below are some sample questions to wrap things up:

-Which would be a better choice: Oatmeal or cinnamon bun?

Toast or a donut

Pretzels or cookies

-Why is it important to eat from the Grain Group?

Grains give you energy because they contain complex carbohydrates.

-How many food groups are there? Five

-What is an example of an item that is found in the Grain Group?

-Which is the larger amount: one teaspoon or $\frac{1}{4}$ cup?

**Lastly, we are going to add our first piece to our dragon head. The first section of the dragon's body will represent the Grain Group.*

Questions and clean up.

Suggested clean up:

Collect all bottles of food coloring. Make sure the lids are secure. Collect all the cups and dispose of the contents in the trash can, not the sink.

The cups can be reused by other classes. Please rinse out cups and plastic knives. Dry them thoroughly.

Make sure lids are secure on the cornstarch, flour and sugar.

Scientist's name _____

Facts from the Grain Group

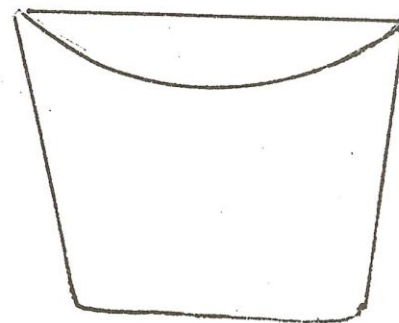
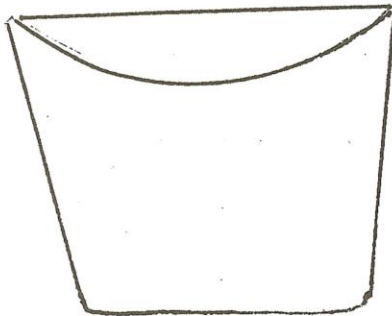


The foods from the Grain Group give you energy for learning and playing. Foods in this group are made from different grains, such as wheat, oats, rye, barley, and rice. These foods have complex carbohydrates, which are an important source of energy, especially in low-fat diets. These foods also have vitamins, minerals, and fiber. The food guide pyramid suggests that 7-10 year olds eat five to six servings a day from the Grain Group.

Be careful at what foods you eat from this group. Some foods in this group, such as croissants and muffins, do not provide the best nutrition. They are also very high in fat and may contain excess sugar.

Experiment: Sugar versus Starch

- 1) Listen carefully and follow directions so you can complete the experiment.
- 2) Draw a picture of your observations.



When you eat foods that are high in sugar the food is absorbed into your body quickly, but then you feel hungry again quickly.