

LESSON 26



Breakfast Bonanza*

*Lesson adapted from Texas Education Agency Nutrition Education Curriculum Guide Grades 5-8, and a lesson plan developed by Ms. Michele Dorsey.

Background**

Breakfast is the most important meal of the day. Eating breakfast gives the body the energy it needs to start the day and perform the morning's tasks, from thinking to doing the dishes to working out. Generally, adults who eat breakfast regularly learned this lifelong good habit when they were children.

National studies show that children who eat breakfast are better prepared for the school day. They perform better in school, are tardy less often, and miss fewer days of school. Students who eat breakfast have also demonstrated better concentration, faster reaction times, higher energy levels, and better test scores.

To help make breakfast a lifelong habit, students (and adults) should be encouraged to start their day by eating breakfast. Any good, nutritious food can be eaten for breakfast. If people don't like typical breakfast foods, such as whole-grain cereal or toast, they can eat healthy leftovers from dinner. The most important thing is to eat a nutritious meal in the morning.

Ideally, breakfast should contain a healthy balance of nutrients including carbohydrate from foods such as whole-grain cereal or toast, fresh fruit and vegetables, and some protein (preferably from healthy protein foods such as nuts, which also provide healthy fat, or from dairy products such as unflavored milk or plain yogurt). This means that foods from each of the food groups can be part of a nutritious breakfast!

The carbohydrate in a nutritious breakfast gives the body energy, and the protein helps stave off a midmorning drop in blood sugar that can make children lethargic before lunchtime. In a healthy person, blood sugar levels indicate how much fuel (in the form of glucose) is immediately available to the body. When blood sugar levels drop, children (and adults) may feel hungry, drowsy, or less energetic and have trouble concentrating.

Foods such as doughnuts, pastries, sweetened cereals, candy bars, and other sugary drinks and desserts contain refined grains and a lot of added sugar and are not the best choices for breakfast because they cause blood sugar levels to rise and drop quickly. Alternatively, breakfast choices containing both healthy carbohydrate (from fiber-rich whole grains, fruits, and vegetables) and protein can help keep blood sugar levels steady throughout the morning until lunchtime. (For more on healthy carbohydrate, see lesson 2, Carb Smart.)

Estimated Teaching Time and Related Subject Areas

Estimated teaching time: 1 hour

Related subject areas: math, science

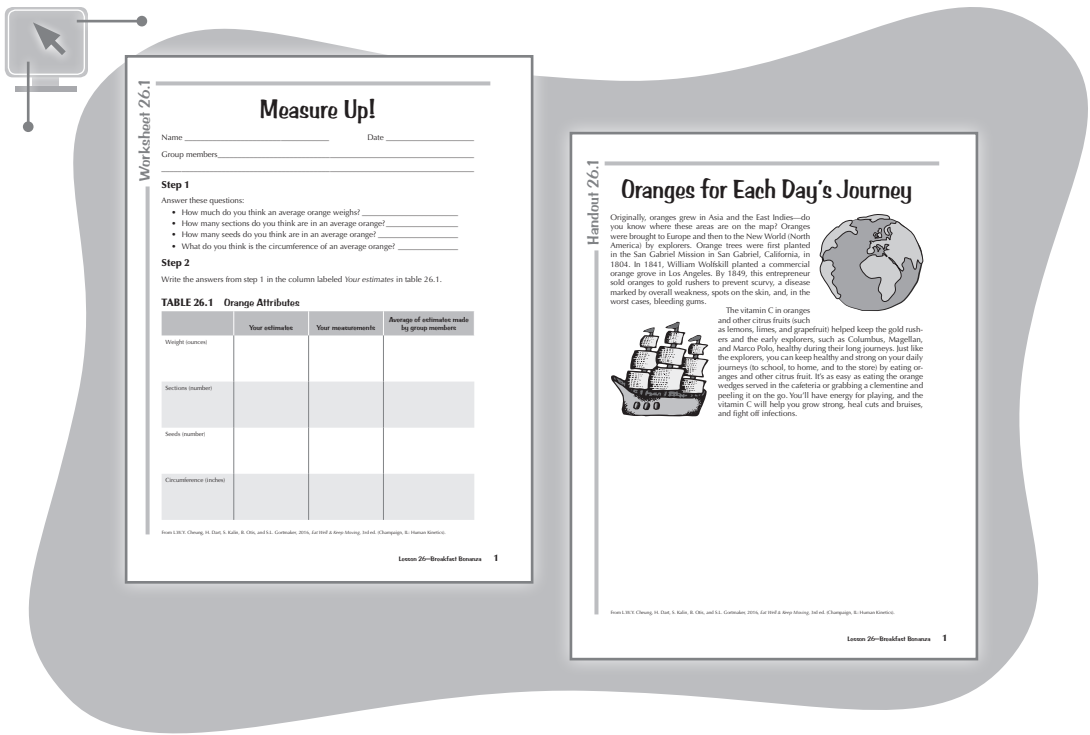
Objectives

- Describe why they should eat a healthy breakfast.
- Name nutritious breakfast foods.
- Calculate the measurements of an orange and the average of their findings.

**Background information partially from Maryland Food Committee.

Materials

- Blank sheets of drawing paper (one per student)
- Pencils, crayons, or colored markers
- Rulers
- Twine or string
- Scale (one or more)
- Calculators
- Oranges (two for each group of four students)
- Worksheet 26.1, Measure Up!
- Handout 26.1, Oranges for Each Day's Journey, and Have You Ever Heard of Pineapple Oranges?



Procedure

Part I: Importance of Breakfast

1. Ask the students why they think it is important to eat a nutritious breakfast. Write their responses on the board. Following are some examples of what studies have shown about breakfast:
 - People who skip breakfast do not perform as well in tasks of concentration as those who eat breakfast.
 - People who skip breakfast have shorter attention spans.

- People who skip breakfast may feel drowsy by midmorning.
 - People who skip breakfast score lower on tests than those who eat breakfast.
 - People who skip breakfast are less energetic.
2. Explain that the body needs fuel to perform well. For example, they could have the fastest car in the world, but if it doesn't have any gas (fuel), it won't go anywhere.
 3. Explain that the word *breakfast* means "breaking the fast." A fast is going for a long time without eating. After dinner and sleeping overnight, the body has gone 10 or more hours without food. By eating breakfast, they are breaking the overnight fast and giving their bodies the fuel (food) they need to play, think, and have fun. If appropriate, remind students that breakfast is available before school in the cafeteria.
 4. Ask students to name foods they enjoy eating for breakfast. Tell them that any nutritious foods may be eaten for breakfast—they don't have to eat only breakfast foods. For example, a turkey sandwich on 100% whole-wheat bread, or healthy dinner leftovers such as sautéed vegetables or brown rice and beans are all foods they can eat for breakfast.
 5. Give each student a blank piece of paper and have them write the letters of their names vertically. Next to each letter in their names, students should write the name of a food beginning with that letter. Suggest that they write foods that they enjoy eating for breakfast, and encourage them to choose healthy foods.

Following is an example of a name with healthy foods:

Dates

Apples

Rye bread

Yogurt

Loganberries

6. Pick a few students to share their answers. Ask some students who have an O in their names to share their answers. Did any of them come up with *orange*? An orange is a good part of a nutritious breakfast. If students mention *orange juice*, remind them to limit consumption of 100% fruit juice to no more than 4 to 6 ounces (120-170 ml) per day.
7. Have students read aloud (in unison) the two short passages on Handout 26.1, *Oranges for Each Day's Journey* and *Have You Ever Heard of Pineapple Oranges*? Discuss the following questions related to the passages:
 - Why do you think the author wrote the passage?
 - What is the main idea of the passage?
 - Name the places in the world where oranges grow.
 - What is meant by the term *Valencia*?
 - How did the blood orange get its name?
 - Why is it important to have vitamin C in your body?
 - How does vitamin C protect you?

Part II: Examining an Orange

1. Tell the students that now that they know why oranges are good for them nutritionally, they are going to learn even more about oranges by examining them scientifically.
2. Demonstrate how the circumference is the distance around the orange.
3. Show the students that by placing a piece of string around the orange and then using a ruler to measure the length of the string, they will get an approximation of the circumference of the orange.

4. Distribute Worksheet 26.1, Measure Up!, and divide students into groups of four. Give two oranges to each group. Have the students work cooperatively to complete the questions, chart, and graph. Their goal is to gather data and present their findings in an organized chart and graph.
5. If students have been keeping journals, have them write in their journals what they learned about breakfast and oranges.

For part II, the class must be able to use oranges. If oranges (or a similar fruit) are unavailable, part II can be postponed until they are available. To help the students approximate the weight of the orange, it may be helpful to mention how much some similarly sized items (such as an apple or a tennis ball) weigh.

CIRCUMFERENCE OF A CIRCLE

Explain the math formulas that can be used to determine the circumference of a circle:

$$\text{Circumference} = \text{diameter} \times \pi,$$

$$\text{Circumference} = 2\pi r,$$

where $\pi = 3.1416$; r = radius.

Extension Activities

Science

Use the orange (or another fruit with seeds) to discuss how fruit reproduce. The following website offers a resource for teachers: www.urbanext.uiuc.edu/gpe/index.html

The University of Illinois curriculum called *The Great Plant Escape* contains several lessons on plant structure; case 4 discusses the propagation of flowers and includes some references to fruit. The curriculum is available in English and Spanish.

Social Studies

Have students research the travels of the orange, from its origins in Asia and the West Indies to its current production around the world (particularly in Brazil and Florida). Have students create maps depicting these travels and discuss oranges in relation to European explorations and the settlement of the New World.

