



Fun with Fiber

Lesson

Goals

Students will learn about fiber and why they need it.

Objectives

Students will discuss and read about fiber, analyze nutrition labels looking for fiber content, and calculate how much fiber they need in a day. Student will also evaluate which type of cereal with high fiber they like the best.

Colorado Academic Standards

Science: Life Science

GR.5-S.2-GLE.2

Comprehensive Health: Physical & Personal Wellness in Health

GR.2-S.2-GLE.1

GR.3-S.2-GLE.1

GR.5-S.2-GLE.1

GR.6-S.2-GLE.4

Did you know?

Food changes when processed and the fiber content may change too. A whole apple with peel has 3.7 g of fiber, an apple without peel has 2.4 g, applesauce has 1.5 g and apple juice has 0 g.

Total Time – 60 minutes

Materials

- Copies of handouts and recipe (end of lesson)
- Four different types of cereal (or use the attached nutrition labels and skip the taste test)
- Plates
- Calculators
- Journals

Vocabulary

body waste

fiber

intestines

calories

healthy weight

whole grains

Method

Introduction (10 minutes)

1. Ask the class: *Who knows what fiber is?* Fiber is a nutrient found in many foods such as whole grain breads, dried beans, fruits and vegetables. Our body does not digest fiber; therefore it helps our stomach to feel full without providing any calories. *Why is fiber good for us?* Fiber helps keep our intestines healthy by promoting movement of waste out of our body. Fiber also helps us to maintain a healthy weight by providing a feeling of fullness without calories.
2. If you have covered whole grains, review with them with the class. If not, have a brief discussion about the importance of whole grains and what are whole grains.
3. Go over tips for increasing fiber.

- a. Eat whole fruits and vegetables, with the peel.
- b. Read nutrition labels. Look for good sources of fiber (3g) and excellent sources (5g).
- c. Look for whole grain or whole wheat in ingredient lists.

Activity (25 minutes)

1. Have the class complete the attached sheet to determine how much fiber they need a day. You may need to help the younger students with their math.
2. Put a little of each cereal on a plate for each student or group of students. Have the students sample four or more types of cereal and fill out the charts at the end of the lesson. It is helpful to put the name of the cereal and the grams of fiber on the board for the class to write down, but you may also want to photocopy the nutrition labels from your cereal boxes and have the class find the grams of fiber themselves.
3. Make sure students understand how to find fiber on a nutrition label. It is labeled dietary fiber and can be difficult for students to find. Have a few students show the class where fiber is on different nutrition labels. Also, make sure they know to look at the grams in the serving not just the Percent of Daily Value.
4. Have students cut and paste the handouts into their journals.

Conclusion (15 minutes)

Discuss or have the students write in their journals: *What is fiber? Why do we need fiber? How can we increase our fiber? Are any of the foods we grow in the garden high in fiber? How are fiber and whole grains related?*

Snack (10 minutes)

Have the Fruit Pizza or Banana Split Cereal snack. While eating the snack, discuss the fiber value of the snack ingredients.

Assessment Tools

- Participation
- Fiber charts and math
- Journals

Modifications

- Provide students with calculators to help calculate daily fiber intake on Fiber Worksheet. May need to scaffold skill needed to accurately use the calculators.
- Combine with the “What Are Whole Grains?” lesson by cutting the snack preparation from both of them for a full one-hour lesson.

Extensions

- Give the students a recipe (such as Fruit Pizza) with ingredient analysis. Have the students calculate the amount of fiber per serving.
- Have the students write in their journals: *Are any of the foods we grow in the garden high in fiber? How are fiber and whole grains related?*

Suggested Products

- Cheerios
- Kix
- Special K
- Quaker Oatmeal Squares
- Raisin Bran
- Shredded Wheat (without frosting)
- Kashi Autumn Wheat

Fruit Pizza

- Whole wheat pita bread or English muffins
- 8 oz. light cream cheese (or Neufchatel cheese)
- 1 banana, peeled and sliced
- 4 cups of assorted fruit (pineapples, blueberries, strawberries, honeydew, cantaloupe, pitted cherries, peaches, etc)

Preparation (15 minutes): Spread cream cheese over pita or a half of English muffin. Arrange the fruit on the pizza in a design you desire. Be creative! If using pita bread, cut into wedges.

Banana Split Cereal

Who said banana splits were only for desert? Yogurt, cereal and fruit combine to make a powerhouse breakfast!

- 1 small ripe banana
- ½ cup fresh blueberries or other fresh fruit
- ½ cup nonfat or low-fat vanilla yogurt
- ½ cup low sugar cereal (Cheerios, Wheaties, Grape Nuts, Kashi Autumn Wheat)

Preparation (10 minutes): Peel the banana and slice it lengthwise (from tip to tip). Wash the blueberries or other fresh fruit. If using other fruit beside blueberries, cut them into small pieces. Spoon the yogurt in a mound in the center of a cereal bowl. Sprinkle the cereal on top of the yogurt. Arrange the banana halves on either side of the yogurt. Sprinkle the top with the blueberries or other fruit. Or yogurt and fruit can be layered in a cup with cereal sprinkled on top.

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How much fiber do you need daily?

Consuming fiber helps to keep our stomach full making it helpful in achieving and maintaining a healthy weight. The recommended amount of fiber for children is 5 grams of fiber plus the your age.

For example, if Billy is 8 years old, he needs to eat 8 + 5 grams of fiber every day, or 13 grams of fiber.

Your age in years: _____

+ 5 grams of fiber

= _____ grams of fiber per day

Taste Test

Name of Cereal	Grams of Fiber	Did you Like it:
		Yes or No
		Yes or No
		Yes or No
		Yes or No

High Fiber Foods

- Fresh fruit with their peels (apples, pears, peaches, berries, etc)
- Vegetables (broccoli, carrots, cauliflower, cabbage, avocados, peas, spinach, etc)
- Nuts and nut butters (almonds, cashews, pistachios, sunflower seeds, peanuts, etc)
- Bananas
- Oranges
- Raisins
- Beans
- Oatmeal
- Popcorn
- Multi grain cereals
- Whole-grain bread
- Wheat crackers

Ways to Increase Your Fiber

- **Eat Breakfast:** Enjoy a high-fiber cereal, whole-wheat toast, oatmeal and fresh fruit to start your day out right.
- **Eat Fruit:** An easy, delicious snack can be fresh or dried fruit. Keep the peel on to get the most fiber out of your snack.
- **Become a Topper:** Don't forget the fiber-filled toppers like: bananas, blackberries, or hummus while enjoying cereal, oatmeal, or whole-wheat toast.
- **Keep the Veggies:** Carrots, celery, snap peas are easy high-fiber snacks. It is easy to add vegetables to your sandwiches or burritos.

Cheerios



Nutrition Facts

Serving Size 1 cup (30g)

Amount Per Serving

Calories 110 Calories from Fat 20

%Daily Value*

Total Fat 2g **3%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 210mg **9%**

Total Carbohydrate 22g **7%**

Dietary Fiber 4g **16%**

Sugars 2g

Protein 4g

Vitamin A 10% • Vitamin C 10%

Calcium 10% • Iron 60%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

		Calories: 2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carb		300g	375g
Dietary Fiber		25g	30g

Nutrition Facts

Serving Size 1/2 cup dry (100g)

Amount Per Serving

Calories 370 Calories from Fat 60

%Daily Value*

Total Fat 7g **11%**

Saturated Fat 1g **5%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 0mg **0%**

Total Carbohydrate 68g **23%**

Dietary Fiber 9g **36%**

Sugars 1g

Protein 14g

Vitamin A 0% • Vitamin C 0%

Calcium 6% • Iron 25%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

		Calories: 2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carb		300g	375g
Dietary Fiber		25g	30g



Nutrition Facts	
Serving Size 3/4 cup (30g)	
Amount Per Serving	
Calories 120	Calories from Fat 10
%Daily Value*	
Total Fat 1g	2%
Saturated Fat 2g	10%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 150mg	6%
Total Carbohydrate 26g	9%
Dietary Fiber 1g	4%
Sugars 12g	
Protein 2g	
Vitamin A 10%	• Vitamin C 25%
Calcium 0%	• Iron 35%
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carb	300g 375g
Dietary Fiber	25g 30g

Nutrition Facts	
Serving Size 1 cup (28g)	
Amount Per Serving	
Calories 100	Calories from Fat 0
%Daily Value*	
Total Fat 0.5g	1%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 130mg	5%
Total Carbohydrate 25g	8%
Dietary Fiber 3g	12%
Sugars 12g	
Protein 1g	
Vitamin A 10%	• Vitamin C 25%
Calcium 0%	• Iron 25%
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carb	300g 375g
Dietary Fiber	25g 30g



Shredded Wheat



Nutrition Facts

Serving Size 2 biscuits (47g)
Servings Per Container 9

Amount Per Serving	2 Biscuit	1 Biscuit
Calories	160	80
Calories from Fat	10	5
% Daily Value**		
Total Fat 1g*	2%	1%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
Polyunsaturated Fat 0.5g		
Monounsaturated Fat 0g		
Cholesterol 0mg	0%	0%
Sodium 0mg	0%	0%
Potassium 180mg	5%	3%
Total Carbohydrate 37g	12%	6%
Dietary Fiber 6g	24%	12%
Soluble Fiber <1g		
Insoluble Fiber 5g		
Sugars 0g		
Other Carbohydrate 31g		
Protein 5g		

Nutrition Facts

Serving Size 59 g

Amount Per Serving	
Calories 187	Calories from Fat 13
% Daily Value*	
Total Fat 1g	2%
Saturated Fat 0g	1%
Trans Fat	
Cholesterol 0mg	0%
Sodium 289mg	12%
Total Carbohydrate 45g	15%
Dietary Fiber 7g	29%
Sugars 17g	
Protein 6g	
Vitamin A 15%	Vitamin C 8%
Calcium 3%	Iron 79%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.