Teen Lesson Plan

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Concept

Enable pre-teenagers and teenagers to identify low fat dairy products and understand the benefits of consuming them.

Goal

Encourage pre-teenagers and teenagers to choose low-fat dairy products.

Handouts are found in the "Lesson Plan Handouts and Activities" section of this manual.

LABEL READING ACTIVITIES
Activity 1: Group Activity – "Taste Test"
Grades 6-8

Objective

Students will learn how the fat content in milk affects the flavor.

- Bring in samples of fat-free, low fat (1%), reduced fat (2%), and whole milk. Use a marker to label four plastic glasses A, B, C, and D. Without showing students what you are doing, pour a small amount of each type of milk into one of the marked cups. (Prepare one set of cups for each student participant.)
- Now have a student come up to taste each of the four milks. Have them describe the taste and rate each. Repeat with other students trying the taste test. Can students correctly identify each type of milk using only the taste?
- Later, ask students to talk about how they can reduce the fat they consume by switching to a lower fat milk. If they usually drink whole milk, they can change to reduced fat (2%) milk, then after a while to a low fat (1%) milk, and finally to fat-free milk.
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Activity 2: Group Activity – "Get in Line with Fat"
Grades 6-8
Objective

Students will read labels and compare fat content of a wide variety of dairy products.

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Materials Needed

- Assign each student to bring a label or carton/container of one of the following dairy products (see table). Collect a variety of labels from whole, reduced-fat, low fat, and fat free cheeses, yogurts, milks, and ice creams.
- Labels/Containers/Cartons of Dairy to Collect It is best if all products from the same category (i.e., cheese, milk, ice cream, etc.) are in the same size containers so the amount of fat per serving may be determined.

Suggested Foods for Activity	
Chocolate Milk	Low fat Chocolate Milk
Whole White Milk	Reduced Fat White Milk
Low Fat White Milk	Fat-free White Milk
Cheddar Cheese Block	Low fat/Part-Skim Mozzarella Cheese Block
Shredded Cheese	Low fat Shredded Cheese
Velveeta Cheese	American Cheese Slices
Reduced Fat American Cheese Slices	Cream Cheese
Cottage Cheese	Reduced Fat Cream Cheese
Low fat Cottage Cheese	Pudding Cups
Low fat Yogurt	Regular Flavored Yogurt
Fat-free Yogurt	Sour Cream
Low Fat Sour Cream	Ice Cream (Half-gallon)
Low fat Ice Cream (Half-gallon)	

Discussion

1. Divide the students into groups so each group has an equal number of items from each dairy category (i.e., you do not want all of the students who have a cheese label in the same group).
2. Have one group to come to the front of the class with their labels/containers/cartons. Ask them to form a line starting with the dairy product that has the lowest fat content and ending with the dairy product that has the highest fat content without looking at the labels of the items they are holding.
3. Once lined up, ask the students to hold their product in front of them so the class can see the order the students chose.
4. Go down the line starting with the first person and ask him or her to look at the label and state the fat content for one serving of that dairy product. Keep going down the line and determine if the students are, in fact, in the correct order of fat content, from lowest to highest.
5. If someone is out of place, help them get arranged in the correct order of fat content, from lowest in fat to highest in fat.
6. Repeat these same instructions with each group.

Activity 3: "What's on the Label?"
Grades 6-12
Objective

Students will learn how to read nutrition facts labels and make better food choices based upon the fat content of dairy products .

Make the following points about the health benefits of calcium-rich foods:

- Diets that are rich in low fat and fat-free milk products help build and maintain bone mass.
- Students who are 12–18 years of age are growing and that is why they need to drink milk. This is when their bone mass is being built.

Now pass out the handout, *What's on the Label?* Tell students that food labels give them important information about the nutritional value of foods. Discuss the following information with them:

- Have students look for the words "Serving Size" on the labels. For milk, the serving size is 8 fluid ounces which equals one cup.

Next, have students find on each label the number of calories in a single serving of food. Each of the first four labels is for an 8 fluid ounce glass of milk; yet each has a very different number of calories per serving. Why? The difference is the fat and sugar content. Look at the calorie content for low fat (1%) chocolate milk. It is higher than the calorie content for whole milk. The extra calories come from the added sugar and chocolate.

At the bottom of the food label, students will find some numbers followed by percent signs. This is where calcium is listed. Use the % Daily Value (DV) column when possible: 5% DV or less is low content, 20% DV or more is high content.

Pass out the worksheet, entitled *What's the Score?* Ask students to complete the chart at the top of the page and fill in numbers from the four nutrition labels for milk. Later, check students' answers.

Next, have students use *What's on the Label?* to complete the questions on *What's the Score?* Check student answers and discuss their answers.

Portion Size Activity – "How Much Do You Want?"
Grades 6-12
Objective

Students will learn how many calories and how much fat and calcium they are consuming each time they eat or drink their favorite dairy products.

Materials Needed

- Gallon or Half-Gallon of Milk (preferably reduced fat 2%)
- 1-8 oz. Block of Cheese (any kind)
- 2-cup liquid measuring cup
- 2 - 16 ounce or larger clear glasses
- Food Scale
- 4 Paper plates/Napkins
- Knife for cutting cheese

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Activity

Place the dairy products on a table with the necessary serving/measuring utensils, dishes, etc.

All students participating must wash their hands before this activity. Have the student volunteers pour milk and/or cut cheese to serve him/herself. Instruct students to take/serve the amount they would usually eat. After each has been served, measure the amount of milk with the liquid measuring cup or weigh the cheese. Ask one or more students to volunteer to complete the activities below for each dairy product.

Gallon of Milk

1. Place the milk and a 16 oz. cup/glass on a table.
2. Have one student volunteer to pour a glass of milk that represents what he or she would normally drink at home.
3. After the student has poured the glass of milk, measure the milk with the measuring cup to determine exactly how much milk the student usually consumes.
4. Now, compare the actual serving size of milk with the recommended serving size on the nutrition facts label.
5. Calculate the number of calories, grams of fat, grams of saturated fat, and milligrams of calcium in the amount of milk poured by the student. Compare results to the recommended amount for one serving.

Cheese

1. Place the block of cheese, unwrapped, on a plate with a knife.
2. Have a student volunteer cut a piece of cheese that represents the amount they would normally cut if eating cheese at home.
3. With the food scale, weigh the piece of cheese cut by the student. Determine how many ounces the cheese weighs.
4. Compare the weight of the cheese with the recommended serving size on the Nutrition Facts label.
5. Determine the amount of calories, grams of fat, grams of saturated fat, and milligrams of calcium the student would consume if eating the cut piece of cheese.

Discussion - "Low-Fat versus Regular Fat Dairy Products"
Grades 9-12
Objective

Review each chart of dairy product nutrition facts. Discuss the differences in calories, fat, and calcium with students in the class.

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Alternatives to Milk - "What Else is Out There?"
Grades 9-12
Objective

To teach students about alternatives to dairy products if they have lactose intolerance, with a milk allergy (relatively rare), or if they dislike them.

Imagine this scenario:

After school, Amy and her friends decide to go out for ice cream before going to the basketball game. Amy had a double scoop of her favorite flavor – plain vanilla. They enjoyed their ice cream and returned to the school to cheer on the high school boys. A few minutes into the game, Amy began to have an upset stomach. As time went on, she began to experience extreme abdominal cramping. The cramps became so intense that Amy left the basketball game and hurried into the bathroom.

What do you think Amy was experiencing after eating her ice cream? Ask students for their input. You may have them do online research.

Discussion

Lactose intolerance is the inability to digest significant amounts of lactose, the predominant sugar of milk. This inability results from a shortage of the enzyme lactase, which is normally produced by cells that line the small intestine. Lactase breaks down milk sugar into simpler sugars that can then be absorbed into the bloodstream. When there is not enough lactase to digest the amount of lactose consumed, the results, although not usually dangerous, may be very uncomfortable. While not all persons deficient in lactase have symptoms, those who do are considered to be lactose intolerant.

Common symptoms include nausea, cramps, bloating, gas, and diarrhea, which begin about 30 minutes to two hours after eating or drinking foods containing lactose. The severity of symptoms varies depending on the amount of lactose each individual can tolerate.

What are alternatives for people with lactose intolerance to eat or drink to get the nutrients found in dairy products?

Have the students do online research to learn alternative calcium and vitamin D food/drink items available for people with lactose intolerance. (One good site is ***MyPyramid.gov.***) Do these foods/drinks supply the same amount of calcium as dairy products?

Serving Size: 8 fluid (one cup) ounces

Milk	Calories	Fat (g)	Calcium (% DV)
Whole	160	8	30%
Reduced Fat (2%)	130	5	30%
Low fat (1%)	110	2.5	30%
Fat-free (Skim)	90	0	30%

Serving Size: ½ cup

Ice Cream		Fat	Calcium
Edy's Grand Vanilla	140	8	6%
Edy's Slow Churned Rich and Creamy, Light, Vanilla	100	3.5	6%
Edy's Slow Churned Rich and Creamy, No added sugar, Vanilla	90	3	10%
Edy's No sugar added, Fat-free, Vanilla	90	0	8%
Edy's Frozen yogurt, Fat-free, Vanilla	90	0	10%

Serving Size: 6 ounces

Yogurt	Calories	Fat	Calcium
Yoplait Original	170	1.5	20%
Yoplait Light	100	0	20%
Yoplait Whips	210	3.75	15%
Yoplait Thick and Creamy Custard Style	190	3.5	30%
Yoplait Thick and Creamy Custard Style Light	100	0	20%

Serving Size: one slice (21 g)

Cheese	Calories	Fat	Calcium
Kraft American Singles	60	4.5	20%
Kraft American Singles – 2% Milk	50	3	25%
Kraft American Fat-free Singles	30	0	15%

Serving Size: 1 ounce

Cream Cheese	Calories	Fat	Calcium
Philadelphia Cream Cheese	100	10	0
Philadelphia Light Cream Cheese	70	6	2%
Philadelphia Fat-Free Cream Cheese	30	0	15%

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Calcium Demo-All age levels

Calcium taken out of the body would look like flour.
You can use flour to represent the calcium in our bones. (Have flour measured into clear plastic bags or measure out as you talk.)

Announce: A newborn has only 27 grams of calcium in its body, which would look like this (display 1/4 cup flour in small, clear plastic bag)

Continue: By age 10, the amount of calcium in your body would look like this. A ten year old's body contains about 400 grams of calcium.

Ask: Why has the amount gone up? (The bones are growing)(display 3 1/2 cups flour in large, clear plastic bag)

Continue: By age 15, your body has grown and will grow even more. At this age your bones become longer and wider. Your body has twice as much calcium as at age ten...it would look like this (display 7 cups flour in large, clear plastic bag)

Continue: By adulthood, your bones will grow even more. As an adult you have 44 times more calcium than you had when you were born...it would look like this (display 11 cups flour in large, clear plastic bag)

Summarize: Osteoporosis often isn't detected until 30% to 40% of the bone is lost. You can see how significant this calcium loss is by comparing the calcium in healthy adult bones to the calcium in the bones of a person with osteoporosis. (display 6 1/2 cups of flour as an example of someone with osteoporosis. Compare to the healthy adult with 11 cups.)

This is inexpensive to put together with the plastic bags and you can then pass them around to your audience. You can also make a permanent display by putting flour in clear acrylic canisters and pictures of the people denoting what each canister is to represent. This works really well at health fairs.

Sunshine State Standards

Label Reading Activity one: Group Activity "Taste Test"
Grades 6-8
Health Education HE.C.1.3.1

Label Reading Activity 2: Group Activity – "Get in Line with Fat"
Grades 6-8
Health Education HE.C.1.3.1
Mathematics MA.A.1.3.1
Mathematics MA.A.1.3.2
Mathematics MA.E.1.3.1.

Label Reading Activity 3: "What's on the Label?"
Grades 6-12
Health Education HE.C.1.3.1 (Grades 6-8)
Mathematics MA.A.1.3.1 (Grades 6-8)
Mathematics MA.A.1.3.2 (Grades 6-8)
Mathematics MA.E.1.3.1 (Grades 6-8)
Health Education HE.C.1.4.6 (Grades 9-12)
Health Education HE.C.1.4.5 (Grades 9-12)
Mathematics MA.A.1.4.4 (Grades 9-12)
Mathematics MA.E.1.4.1 (Grades 9-12)

Portion Size Activity – "How Much Do You Want?"
Grades 6-12
Health Education HE.C.1.3.1 (Grades 6-8)
Mathematics MA.A.1.3.1 (Grades 6-8)
Mathematics MA.A.1.3.2 (Grades 6-8)
Mathematics MA.E.1.3.1 (Grades 6-8)
Mathematics MA.B.4.3.2 (Grades 6-8)
Health Education HE.C.1.4.6 (Grades 9-12)
Health Education HE.C.1.4.5 (Grades 9-12)
Mathematics MA.A.1.4.4 (Grades 9-12)
Mathematics MA.E.1.4.1 (Grades 9-12)
Mathematics MA.B.1.4.3 (Grades 9-12)
Mathematics MA.B.4.4.2 (Grades 9-12)

Discussion – "Low-Fat versus Regular Fat Dairy Products"
Grades 9-12
Health Education HE.C.1.4.6
Health Education HE.C.1.4.5
Mathematics MA.A.1.4.4
Mathematics MA.E.1.4.1

Alternatives to Milk – "What Else is Out There?"
Grades 9-12
Health Education HE.A.1.4.8
Language Arts LA.A.1.4.3
Language Arts LA.A.2.4.4
Language Arts LA.A.2.4.6.