

1% or Less, YES!

Objectives:

- Students will be able to name the various forms of unflavored milk.
 - (whole, 2%, 1%, fat-free)
- Students will be able to compare the fat content in unflavored milk.

Materials Needed:

- Included in the lesson:
 - Pictures of milk caps or cartons from whole, 2%, 1% and fat-free milk containers
 - Amount of fat in milk bar graph
- Four clear cups with labels: whole, 2%, 1% and fat-free
- 2% milk and fat-free milk for taste test
- Small portion cups for taste test



Lesson Introduction:

The fat content of milk is the proportion or percentage of milk made up by butterfat (by weight). Fat-free, 1% and 2% milk have the same amount of protein, calcium and vitamins found in whole milk, but have less fat. Milk processors use the fat to make butter, whipping cream and ice cream.

Fat is not “bad”. Kids need fat in their diets for many reasons but only in small amounts. According to MyPlate, for milk to be called low-fat it must have fewer than 3 grams of fat per serving. Skim milk and 1% milk meet this requirement. (Refer to teacher resource at end of lesson.)

Butterfat Content	U.S. Terminology
80%	Butter
36%	Heavy whipping cream
10.5 – 18%	Half and half
3.25%	Whole milk
About 2%	2% or Reduced fat
About 1%	1% of Low fat
0.5 – 0.0%	Fat-free

Activity: 1% or Less, YES!

1. Fill four 8 oz. clear drinking glasses with one cup of fat-free milk.

Label glasses: Fat-free, 1%, 2% and Whole. Show pictures or examples of milk caps or cartons and discuss what kind of milk the students drink at home and school.

Ask students, “What is different about these four kinds of unflavored milk?”

Emphasize that all types of milk have the same amount of nutrients in them, but they have different amounts of fat.

2. Use a firm stick of butter for this demonstration. Measure out 4 teaspoons of butter and slice in ½ teaspoon increments. Explain that you will

Continued on back

demonstrate approximately how much butter fat is in each type of milk. One teaspoon of butter has about 4 grams of fat. Food labels use “grams of fat” to tell us how much fat a food has per serving so it is helpful for children to be able to visualize grams.

Ask students, “One teaspoon butter has about 4 grams of fat. How many grams of fat are in $\frac{1}{2}$ teaspoon?” (2 grams) Have students guess how much butter would have to be added to reach the appropriate amount of fat in skim, 1%, 2% and whole milk.

3. Add the appropriate amount of butter to each cup of skim milk. Skim milk has zero grams total fat per cup. Add no butter.

1% milk has about 2 grams total fat per cup. Add $\frac{1}{2}$ teaspoon of butter.

2% milk has about 5 grams total fat per cup. Add 1 teaspoon of butter. (Use 2, $\frac{1}{2}$ tsp segments to emphasize that 2% milk has twice the fat of 1% milk)

Whole milk has about 8 grams total fat. Add 2 teaspoons of butter. (Use 4, $\frac{1}{2}$ teaspoon increments to emphasize that whole milk has more than twice the fat of 2% milk and four times the fat of 1% milk)

4. Graph the amount of fat in fat-free, 1%, 2% and whole milk.

Ask students, “What kind of milk is recommended for school age children and adults?”

MyPlate encourages kids and adults to drink low-fat milk most often because they have the lower fat content. This is why we say, “1% or Less, YES!”

Activity: Taste the difference?

Ask students, “Can you tell the difference between fat-free and 2% unflavored milk by sight, smell or taste?”

Let’s find out!

Set up tables on opposite sides of the room. One table will have a sample of fat-free milk for each student and the other table will have a sample of 2% milk for each student. Have students sample both kinds of milk and guess which kind of milk was at each table.

Alternatively, give half the students fat-free milk and the other half 2% and see if they know which kind they received.

Apply:

Brainstorm ways to get more low-fat or fat-free milk into their diets even if you don’t like the taste of it plain.

Examples include:

- Drink milk with meals.
- Use milk in recipes.
- Make different flavors of milk.

Activity Extension:

Make a pudding recipe with fat-free milk for students to taste. Can they tell what kind of milk is in the pudding? Could they make pudding at home for a snack or dessert? Have students create their own snack recipes using low-fat or fat-free milk.

Create a display comparing whole, 2%, 1%, and fat-free unflavored milk and the importance of drinking low-fat or fat-free milk. Display it at a school event.

Math: How many teaspoons of butterfat would a child consume in a week from whole milk if they drank three, 8-ounce glasses each day? (Answer: 8 grams of fat per glass x 3 glasses=24 gram of fat in one day x 7 days per week= 168 grams of fat in one week. 168 grams of fat/4 grams of fat per teaspoon of butter = 42





Amount of Fat in Milk Bar Graph

Instructions: Look at the nutrition labels from the four kinds of milk. Draw in the bars to the correct height.

