

Activity

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# It's in the Process



**D**id you ever wonder how that glass of milk got to you? Sure, you know it comes from cows, but *how*? A lot of hard-working dairy farmers were part of the process. Learn about what happens once the milk leaves their farms.

**Part A:** Write the milk processing term in the second column of the chart next to the step it describes. Then number each step in the correct order in the third column.

## Milk Processing Terms

Packaging    Separator    Homogenization    Pasteurization

| Milk Processing Step   | Milk Processing Term | Correct Order |
|--|----------------------|---------------|
| A. This process heats milk to a high temperature to kill any potentially harmful bacteria that might be present. |                      |               |
| B. This process breaks down fat so it stays suspended in the milk.   |                      |               |
| C. Milk is packaged into bottles and cartons and delivered to your local grocery store.                          |                      |               |
| D. This machine helps remove the cream and then reblends the milk into skim, low fat, and whole milk.            |                      |               |

**Part B:** Milk is part of the **MyPlate** dairy group guidelines for healthy eating. Milk contains important nutrients your body needs to build strong bones and muscles and provide energy, like calcium, Vitamin D, and potassium. Some other essential nutrients in milk are riboflavin, phosphorus, protein, Vitamin A, and Vitamin B12.



## Milk Nutrition By the Numbers

The number of daily servings of milk or milk products recommended for kids ages 9 and older is 3 cups daily. How many cups of milk should a child have in a week? In two weeks? In a month? Make a chart to solve your work and explain your answer.



**Challenge:** Work with a partner to try to determine how much milk your entire class would consume in a week. In two weeks? In a month? Be prepared to share your solution and strategy.

**Parent+!** Remember, whether it's whole, reduced-fat, or flavored, milk is an equal opportunity source for great nutrition for your child. The Florida dairy farmers are pleased to provide fresh quality milk and milk products to help you meet your family's dairy needs.

## There's Science in My Milk!



The process of pasteurization is named for Louis Pasteur, a French scientist who discovered that harmful bacteria can be killed with heat. *Pasteurization* heats milk to a minimum of 145° F for 30 minutes to kill any potentially harmful bacteria present. Pasteurization does not affect the nutrition or taste of milk — and it also helps to keep milk from spoiling too quickly!

## Activity

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## Curds and Whey?

**Part A:** Remember the nursery rhyme about Little Miss Muffet eating her curds and whey? You might be surprised to learn that curds and whey is a dish similar to cottage cheese! The separation of milk solids (curds) and liquids (whey) is the first step in making all kinds of cheese. And the process begins with milk.

With a grown-up, try this experiment to observe the separation of curds and whey (but don't eat the results!):

### Materials Needed

- Whole milk
- Apple cider vinegar
- Small clear glass bowl
- Paper coffee filter
- Jar wide enough for filter to fit inside the top of it to make a small "basket," with the filter overlapping the edges of the jar
- Rubber band to secure the outside edges of the filter around the jar
- Small mixing spoon
- Measuring spoons

### Directions

1. Measure  $\frac{1}{4}$  cup milk into clear glass bowl.
2. Measure 2 tablespoons of vinegar and add to milk. Stir with spoon.
3. Place coffee filter inside top of jar and secure in place with rubber band.
4. Pour milk and vinegar mixture into the filter and allow liquid to fully strain.

On the back of this sheet, record your observations after steps #2 and #4 and include sketches of what you saw. For more dairy science activities, visit Mess With Your Milk at [www.floridamilk.com/in-the-schools/education-materials.stml](http://www.floridamilk.com/in-the-schools/education-materials.stml).

**Part B:** Cheese makes a tasty meal ingredient, and there are several varieties from which you can choose. What types of cheeses have you tried? Put a tally mark in the table below next to any cheese you have tried.

| Cheeses       | Cheeses I Have Tried | Cheeses My Classmates Have Tried |
|---------------|----------------------|----------------------------------|
| American      |                      |                                  |
| Cheddar       |                      |                                  |
| Swiss         |                      |                                  |
| Monterey Jack |                      |                                  |
|               |                      |                                  |
|               |                      |                                  |

**Parents!** Try this fun recipe to help boost your family's dairy nutrition! Use the chef-inspired add-ins below and/or your child's own ideas for other fresh, seasonal produce to personalize this favorite.

## My Style Grilled Cheese Sandwich



### Ingredients

- Two slices of bread, each buttered lightly on one side
- 1 tablespoon butter
- Your favorite cheese (choose one or more from the list above)
- Your favorite savory or sweet add-ins from list below (or use your own ideas)

### Directions

1. Place butter in skillet, and melt at medium high setting.
2. Place one slice of bread in skillet, buttered side down.
3. Place cheese on bread. Don't forget — you can combine different cheeses if you like!
4. Place your add-ins on top of cheese after it starts to melt. (If using jam or marmalade, spread onto the unbuttered side of the second piece of bread.)
5. Top the cheese with the other bread slice, buttered side up.
6. Flip the sandwich in the skillet and cook until it is toasted on both sides.
7. Serve and enjoy!

### Savory Add-Ins

Finely chopped kale or spinach  
 Turkey or ham  
 Tomato  
 Chopped herbs (rosemary, dill, or tarragon)  
 Sliced pickles

### Sweet Add-Ins

Thinly sliced pears or apples  
 Strawberry jam  
 Orange marmalade  
 Chopped pineapple  
 Chopped herbs (mint or basil)

Milk and milk products like cheese are important (and delicious!) sources of calcium and protein for your growing child. Some Florida dairy farmers provide the milk used to produce cheese varieties found in your supermarket. **MyPlate** guidelines recommend  $2\frac{1}{2}$  cups of dairy for children ages 3-8 each day and 3 cups for ages 9 and up.

Activity

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# It's All Greek to Me!



**Part A:** Do you speak Greek? Greek yogurt, that is. Creamy, smooth Greek yogurt is a favorite with kids everywhere, but where does it come from? Yes, it starts with milk from local farmers, but then it goes through quite a process. Can you use what you learned from the poster to summarize the steps in the process below?

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**Part B:** Can you design a better way to keep a container of yogurt cold in your lunch box? Work with a partner to think about what you already know about keeping yogurt cold. Draw a prototype of your idea in the box below.

### Design Challenge

## Yogurt Quick Bites

Choose from among these many different ways to enjoy Greek yogurt throughout the day:

- Layer it with granola and fresh fruit for a breakfast, lunch, or snack parfait.
- Try it in soups, salad dressings, dips, quesadillas, and sandwich wraps.
- Add fresh, juiced fruits to whip up a tasty breakfast smoothie.
- Use it to make tuna, chicken, and egg salads.
- Serve it with your favorite fresh fruits and a drizzle of chocolate sauce for a healthier dessert.
- Add yogurt for a higher protein pancake option.
- Mix it with your favorite seasonings for a tangy marinade for meats and poultry.

**Parents!** The creamy goodness and quality nutrition of Greek yogurt starts with the freshest milk. Packed with calcium and other nutrients for strong bones and teeth, Greek yogurt's creamy, tangy goodness generally contains at least twice the protein of regular yogurt thanks to the straining process that is part of the production process. Young children especially need protein to help them stay focused at school.

