MAKE YOUR OWN CHEESE

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About the Activity
In this activity, kids will learn how to make cheese from milk, plus they’ll compare milk that comes from a cow and a goat. If you can, try this process with both types to compare!

Supplies

These simple materials will get you started.
Most of these supplies you’ll have at home already, but some you may need to order or get from the store.

• Saucepan
• A food thermometer that reads to at least 190 degrees
• Spoon
• Bowl
• Colander
• Cheesecloth or dish towel
• Plastic wrap or container
• 1 quart of whole milk
• Kosher salt
• ½ teaspoon of citric acid (4 tablespoons of lemon juice or white vinegar can act as a substitute for citric acid)

Grades: 3-12
Topic: Food Security, Agriculture
Time: 90 minutes
Activity Steps
Where does milk come from?
Most people immediately think of cows, but milk can come from other animals too. You can use any kind of animal milk you have on hand for this activity.

1 Preparation is key when making any recipe! Collect all your supplies and ingredients, make sure your materials and workspace are clean, and then start to measure out your ingredients.

2 In your saucepan, warm the milk to 190 degrees. It is important to slowly warm the milk so that you don’t burn the bottom of the pan.

DID YOU KNOW?
Cheese is made from milk. By law, all milk sold to the public must be pasteurized and packaged in a licensed dairy plant. Pasteurized milk is a raw milk that has been heated to a specific temperature for a certain amount of time to kill pathogens that may be found in the raw milk. Pathogens are microorganisms, such as bacteria, that could make you sick.

3 Once the milk has reached 190 degrees, sprinkle citric acid in and stir briefly. Let this mixture sit untouched for five minutes.

DID YOU KNOW?
Both goat and cow milk offer nutritional benefits, but goat milk may be easier on the digestive system. This is because the fat molecules of goat’s milk are smaller than the molecules in cow’s milk, which makes it easier for your body to process.

4 Next, place your colander over a bowl, then drape either a cheesecloth or a damp dish towel over the bowl. You are preparing for the fun part of cheesemaking!

5 Now it’s time to revisit your milk and citric acid mixture, which after five minutes should have transformed into curds. Slowly pour the curds into the cheesecloth. Next, lift the cheesecloth allowing the extra liquid to drip out. Be extra careful so that you don’t burn yourself while squeezing the extra liquid.

DID YOU KNOW?
Milk is made of two proteins: casein and whey. When we add the citric acid to the milk and heat it, some milk proteins coagulate (another word for thicken) and form lumps in the milk. As a result, you are left with curds floating around in a liquid, which is the whey protein. You could use the leftover whey for baking or as a snack for your animal!

6 Leave the cheese in the cloth and wrap it in a ball. Cover the ball in plastic wrap or a container and refrigerate for one hour.

DID YOU KNOW?
What you’re making is called farmer cheese, which is an unaged (or fresh) mild white cheese with a crumbly texture. Some people compare it to cottage cheese, but with less liquid. This is how your cheese will turn out once it’s done refrigerating.

7 You can easily customize your homemade farmer cheese with your favorite flavors! For example, you could mix in fresh herbs with the curds or sprinkle them on the finished cheese, along with olive oil and red pepper flakes. You could also use this cheese as a spread, as you would cream cheese. Or maybe you would like to sweeten your snack by adding honey, jam, or fresh fruit to eat like cottage cheese. It’s up to you!
See how much you’ve learned about the art of cheese making!

QUESTION 1
Which milk is easier to digest?
   a. Cow milk
   b. Goat milk

QUESTION 2
What is the process of heating milk to a specific temperature for a certain amount of time to kill pathogens?
   c. Pasteurization
   d. Farmer Cheese
   e. Whey
   f. Cow Milk

QUESTION 3
Name the two types of proteins found in milk.
   g. Curds and whey
   h. Casein and whey
   i. Pathogens and bacteria
   j. Herbs and olive oil

QUESTION 4
What is farmer’s cheese?
   k. An unaged (or fresh) mild white cheese with a crumbly texture
   l. Aged cheese

QUESTION 5
Coagulate means ___________________________
   m. To thicken
   n. To thin
   o. To sneeze
   p. To have indigestion

Reflection Questions

• Why is pasteurization an important part of the cheese-making process? How does this play a role in food safety?

• Did you use goat milk or cow milk? How did this play a role in how your cheese came out?

• What might happen if you used milk with a lower fat content, like skim milk, instead of whole milk?

• Did anything surprise you about the cheese-making process? How did this cheese taste in comparison to cream cheese or cottage cheese?
Investigate & Explore

Take what you’ve learned to the **next level** to learn more and explore the possibilities.

Today, the majority of the world makes cheese from cow milk, but this wasn’t always the case. Early cheeses were believed to be made from sheep’s milk when they were first domesticated in ancient times. Because there was no refrigerator, humans used salt to preserve the cheese and it was eaten fresh.

Across the world, milk from mammals like reindeer, moose, horses, and alpacas is used to make cheese. Each of these cheeses differs in flavor and texture.

The next time you’re in the supermarket, be on the lookout for different types of cheese and the animal milk they’re made from. If you find one you like, maybe you could make it at home!

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**Brought to you by:**

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This work is supported by the USDA National Institute of Food and Agriculture, AFRI - Education and Workforce Development project 2021-67037-33376