

Better Butter

Utah Content Core

Materials

- ◆ Liquid heavy whipping cream
- ◆ Clean baby food jars (one per group)

Background

With just about 830 dairy farms in Utah, 96,000 cows provide many dairy products for us to eat. Milk, cheese, yogurt, ice cream, and cottage cheese are items to choose from to get the two to three recommended daily servings of dairy products.

Butter is made from butterfat from the cream and milk of dairy cows. After cows are milked, the milk travels to a refrigerated tank through pipes. An insulated truck comes to the farm and hauls the milk to a dairy plant. After the milk is tested for safety, it is homogenized, pasteurized, and packaged. Milk can be made into butter, cheese, yogurt, ice cream, or other dairy products. Milk products are stored in a refrigerated room and are then taken to a grocery store for you! Some countries use the butterfat from goats, horses, reindeer, sheep, and other animals to make butter.

Butter used to be made by putting cream into a butter churn. Butter churns were big containers with a pole in the middle. People pulled the pole up and down to churn the cream into butter. Today butter can be made by using various machines. First, cream is pasteurized to kill bacteria and prevent spoilage. Next, the cream is churned, or mixed. Finally, the butter is packaged. Butter is about 80% butterfat, 16% water, 3% salt, and 1% curd of milk. Products such as butter oil, whipped butter, and cooking oil can be made from butter.

Historians are not sure when butter was first made, but they do know that it was made from water buffalo milk as early as 2000 B.C. The first creamery to make high amounts of butter was in Orange County, New York, in 1856. The use of butter was at its highest during the 1920s and 1930s, before margarine became a popular substitute. The average American today consumes four pounds of butter each year.

Activity Procedures

1. Talk about where milk comes from and how milk is made into many products, such as butter.
2. Go through the safety procedures and importance of cleanliness with students.
3. Group students into twos or fours.
4. Discuss the whipping cream in its liquid form and let the students know that a change will be taking place with the whipping cream.
5. Pour whipping cream into baby food jars until half full.
6. Let the students screw on lids. Before shaking, the teacher should check to make sure the lids are securely closed.



Time: 1 hour, plus daily observation time

Grade Level: Kindergarten, 1

Standard III

Students will understand how ancient civilizations developed and how they contributed to the current state of the world.

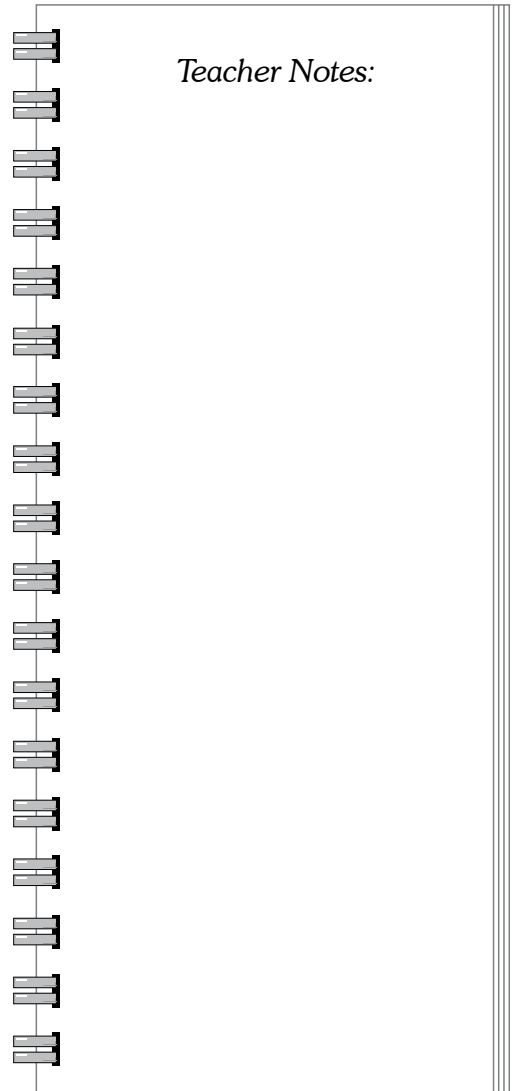
Objective 1

Explain why physical geography affected the development of early civilizations.

7. Have the students take turns shaking the jar to “churn” the cream. Have them shake the jars until they can no longer hear the liquid moving. The teacher should check the jars to see if the cream has separated into milky liquid (whey) and creamy solid butter.
8. Help the students carefully pour off the liquid. Serve their homemade butter on bread or crackers.

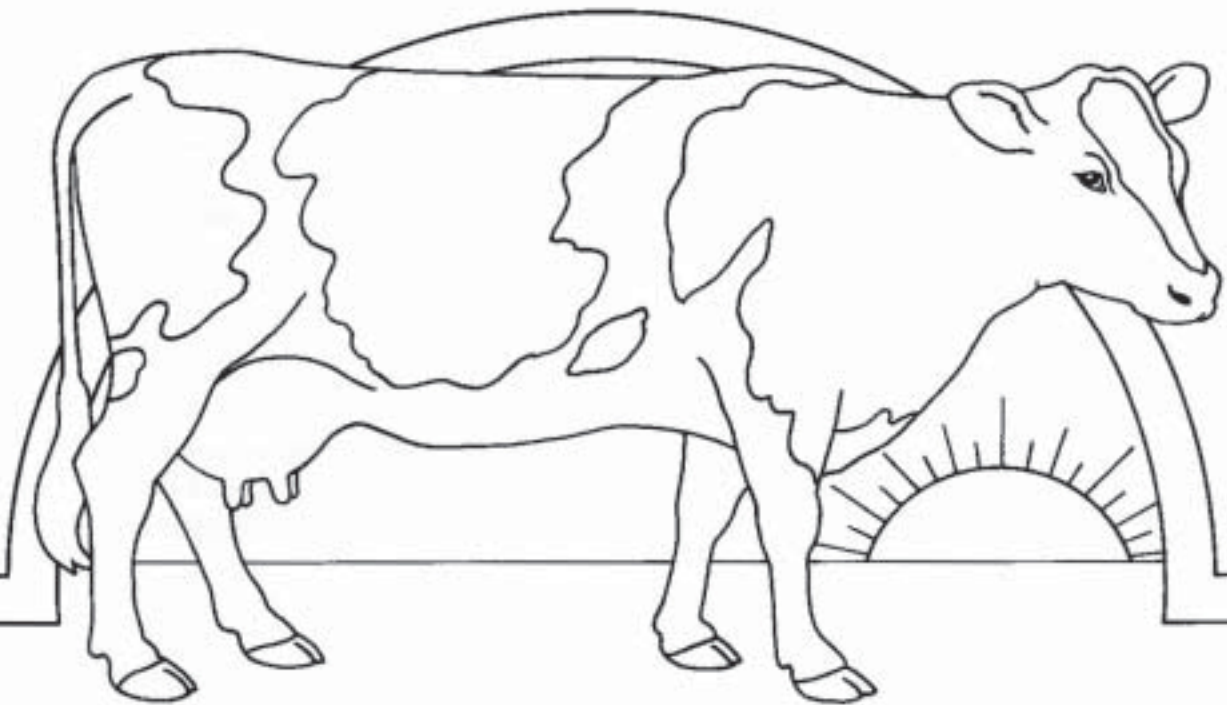
Additional Activities: What’s Next?

1. Included in this lesson are three handouts/worksheets entitled “Cows Make Milk for You and Me,” “From Farm to You,” and “From Farm to You Activities,” from the Utah Dairy Council. You may copy the pages for use in your classroom.
2. Compare the taste and color of purchased butter, which has salt and sometimes food coloring added, to “better butter.”
3. Show pictures of old churns and new ones.
4. Create a hands-on unit based on dairy products.
5. Teach a lesson about cows and how they can turn grass into an edible product for humans. Cows have four stomachs to help them digest foods we cannot.



Teacher Notes:

Cows Make Milk For You and Me



When a cow is born it is called a calf.

A calf weighs about 100 pounds.

A cow weighs about 1500 pounds.

Cows come in all colors: red and white, red, black and white, brown, brown and white, and golden brown.

The black and white cows are called Holsteins.

A cow eats 90 pounds of food each day.

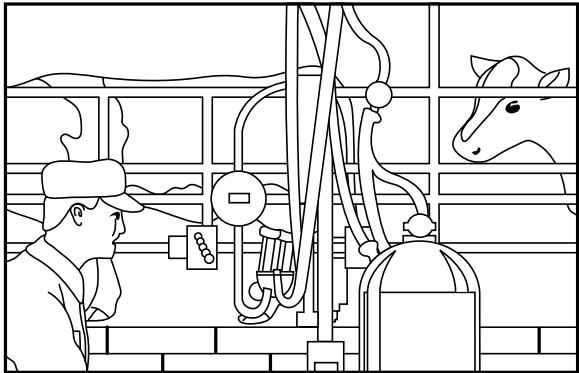
A cow drinks 25 to 50 gallons of water each day.

A cow makes milk from food and water she eats.

A cow gives 100 glasses of milk each day.

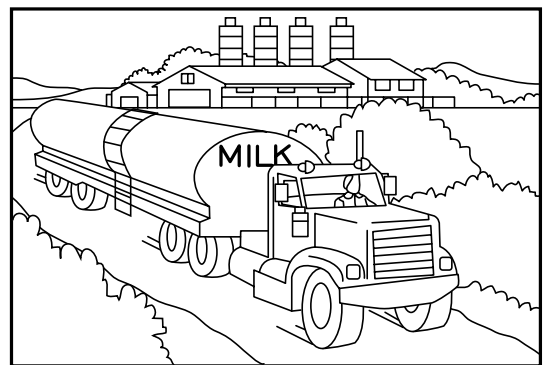
From Farm to You

1



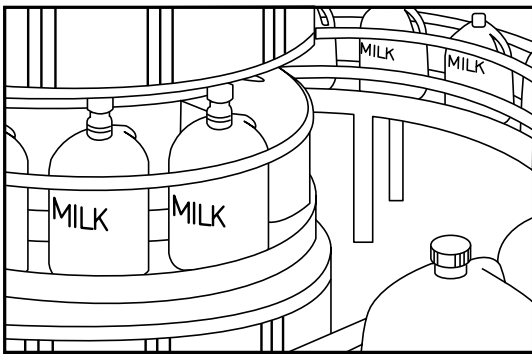
The cow is being milked.

2



A truck takes the milk from the farm to the dairy plant.

3



The milk is heated, cooled, and placed in containers at the dairy plant.

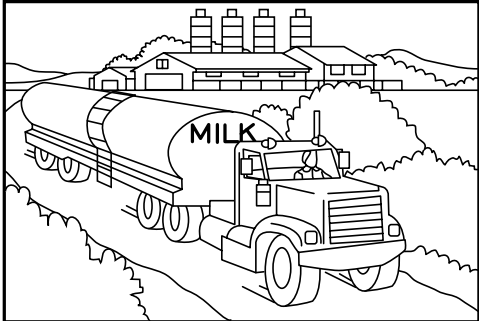
4



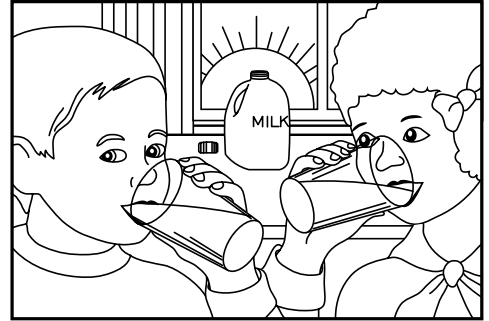
Now, the milk is ready for you to drink.
Drink 3 glasses of milk every day.

From Farm to You Activities

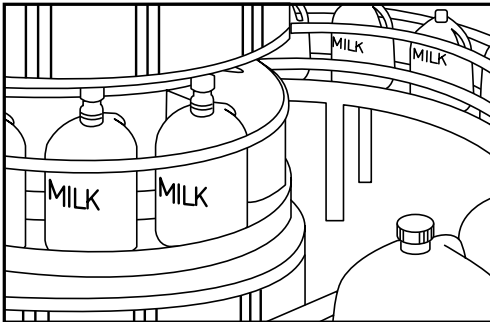
How do you get milk to drink? Number the pictures in order 1, 2, 3, and 4.



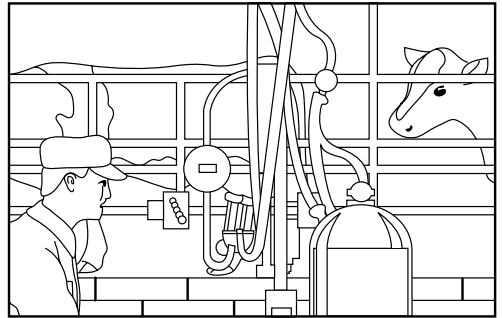
From farm to dairy plant



Milk for you

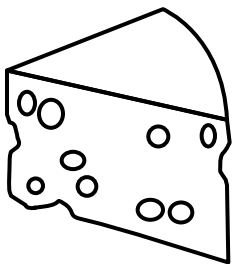


Dairy plant

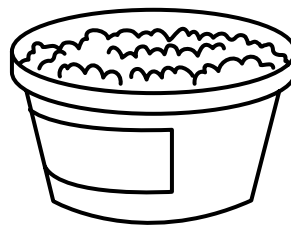


Milking

These foods are made from milk. Fill in the vowels to name the foods.



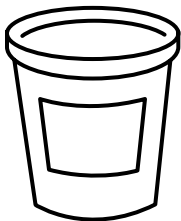
ch _ _ s _



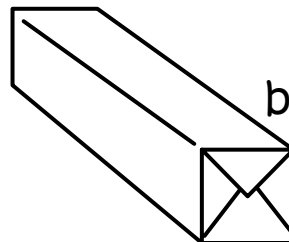
c _ tt _ g _
ch _ _ s _



_ c _
Cr _ _ m



y _ g _ rt



b _ tt _ r