

COWS, Cows and More Cows!

Activity Synopsis

This activity introduces cows as animals that make milk for people to drink. Students learn about dairy cows and how milk is produced on a dairy farm.

Activity Outcomes

Students will be able to:

- Identify cows as the primary animals that make milk for people to drink.
- Explain that there are different kinds, or breeds, of dairy cows.
- Describe the milking process.

Cross-curricular Outcomes

Students will be able to:

- Define, and correctly use, terms related to dairy cows and milk production. (Language Arts)
- Describe and compare animal characteristics. (Science)
- Share past experiences and knowledge. (Language Arts)

Activity Length

45 minutes

Materials

- **Dairy Breeds of North America** poster
- An 8-ounce, single-serve bottle or carton of milk
- An empty one-gallon milk jug
- 8 1/2" x 11" piece of white drawing paper, one per student
- Crayons, markers or colored pencils
- Hole-punch
- Ribbon, string or yarn
- **Cow Outline** activity sheet (Going Further optional activity)
 - Dinner-size paper plate, one per student (optional)
 - Dessert-size paper plate, two per student (optional)
 - Stapler or glue, scissors (optional)

Advance Preparation

- Preview the suggested instructional strategy.
- Display the **Dairy Breeds of North America** poster.
- Obtain an 8-ounce, single-serve bottle or carton of milk and a one-gallon empty jug of milk from the cafeteria or grocery or convenience store.
- Visit the following Web sites for more information about dairy farming.
 - www.agriculture.state.pa.us
 - www.dairyfarmingtoday.org
- Duplicate **Cow Outline** activity sheet, one per student. (Going Further optional activity)

After you've completed this lesson

go to www.dairyspot.com and

- Complete our **User Survey** with your thoughts on this lesson and the entire program.
- **Enter your school librarian or media specialist** into our drawing for a chance to win a book bag, filled with dairy and nutrition-related books, for your school library!

MILK:
It Does a
Student
Body Good!

Cows, Cows and More Cows!

1. Begin this lesson by introducing the cow as the primary animal that makes milk for people to drink.

■ Ask students where milk comes from? **Accept all reasonable responses.**

Explain that:

- People have been drinking cow's milk for a very long time.
- The first cow came to America in 1611 with some of the first settlers to the New World.
- At one time, nearly every family in the United States had its own cow. Today, very few people have a family or "house" cow. Instead, dairy farmers provide us with the milk that we drink.

2. Ask students if they've ever visited or lived on a dairy farm or have seen a dairy cow. Allow students to share their experiences.

Explain that:

- Dairy cows live on dairy farms. Each dairy farm has a herd of dairy cows.
- *What is a herd?* **A group of animals, such as cows, that live together**
- The **dairy farmer** manages the farm and all of the farm workers. He or she feeds the dairy cows, milks them, and makes sure they are healthy and well cared for.
- All dairy cows are females. Like humans, cows cannot make milk until they give birth.
- *What do we call a baby cow?* **Calf**
- A calf weighs 60 to 110 pounds when it is born.
- Most human babies weigh between 6 and 8 pounds when they are born.

3. Refer to the Dairy Breeds of North America poster. Explain that:

- There are different kinds of dairy cows in the United States.
- Just like dogs and cats, there are many different kinds of cows. Dairy cows are separated into groups called **breeds**.
- *What is a breed?* **A breed is a group of animals that are alike. They have similar characteristics, some of which you can see.**
 - For example, one breed of dogs is the Yellow Labrador Retriever. *Does anyone have a Yellow Labrador Retriever (yellow lab) at home?* All Yellow Labrador Retrievers have yellow hair, a long tail, and floppy ears. That is because they are of the same breed.

Use the poster to show a picture of each breed of dairy cow. Read the name of each breed aloud.

Ask:

■ *How is each breed different? What physical characteristics do you see that make one dairy cow breed different from another?* **Accept all reasonable responses.**

• Examples include:

- **One breed is light brown all over. (Jersey)**
- **One breed is brownish-gray all over. (Brown Swiss)**
- **One breed has black and white patterns all over. (Holstein)**

4. Point to the Holstein on the poster. Tell students that the most common breed of dairy cow in the United States is the Holstein.

Ask students to describe what Holsteins look like. **Most have black and white spots.**

Explain that a Holstein's spots are like a fingerprint or snowflakes; no two are alike.

Ask students:

- *How much do you think a Holstein weighs?* **Record responses on the board.** An adult Holstein cow weighs about 1,500 pounds and stands 58 inches tall at the shoulder. Record the numbers on the board.
 - To give students an idea of how much 1,500 pounds is, compare the weight of an average 7- to 8-year-old child, 65 to 75 pounds, to that of a Holstein's weight. *How many children does 1,500 pounds include?* Mark 58 inches on the wall with a piece of masking tape. Have students compare their height to that of a Holstein.

5. Explain that cows change the food they eat and the water they drink into milk. Ask:

- *What do cows eat and drink?* **Cows eat grain, grass and other plants and drink water.**
- *How many pounds of food do you think a cow eats each day?* **A cow eats about 100 pounds of food each day.** That is like eating 480 hamburgers each day.
- *How much food do you eat each day?* **Accept all reasonable responses.**

■ Tell students that it is also important for cows to drink water. Cows get thirsty and need water to make milk. Each cow drinks about a bathtub full of water each day. That is like drinking 432 bottles or cartons of milk each day. For reference, show students the single-serve carton or bottle of milk.

Ask students:

- *How much milk do you drink each day?* **Accept all reasonable responses.**

■ If you drank 3 glasses of milk each day, how many days would it take you to drink 432 bottles of milk? **144 days**

■ It takes a cow about 6 1/2 hours to eat and drink all her food. Cows have a very special digestive system. Their stomach is divided up into 4 compartments.

■ How many compartments is your stomach divided up into? **1**

■ When food and water is digested, some of nutrients travel to the **udder**. Here water and nutrients are used to make milk.

■ Show students the gallon milk bottle. Dairy cows make about 6-7 gallons of milk each day.

Ask students:

■ How does the dairy farmer gets the milk from the cow?

Accept all reasonable responses.

■ How many times a day does a dairy farmer milk cows?

2 to 3 times a day

Explain that:

■ Most cows are milked using milking machines. The milking machine is attached to the teats, or nipples, of the cow's udder.

The machine gently draws the milk out of the udder. The feeling is like a baby sucking on a bottle.

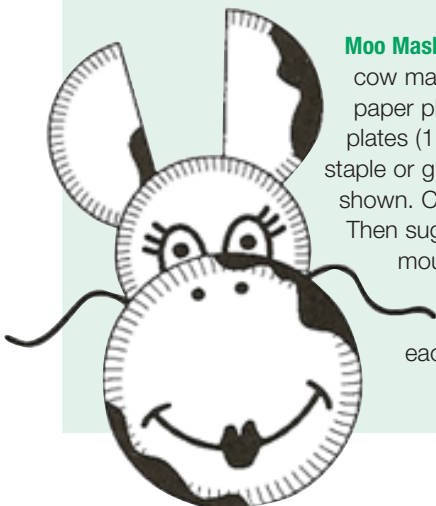
■ Once the milk is drawn from the udder, pipelines carry the milk from the cow and milking machine to the storage tank. The tank is like a large refrigerator. It quickly cools the milk. The milk is stored in the refrigerated tank until the tank truck driver takes it to the dairy plant.

■ Milk is never touched my human hands.

Check for Understanding

Have each student draw a picture and write a sentence or two about dairy cows for a classroom book. Remind students to write their names on their page. As a class, create a book title and cover. Using a hole punch and ribbon, string or yarn, bind everyone's pages together and add the new book to the classroom library.

Going Further:



Moo Masks Have students create cow masks with 1 large dinner-size paper plate and 2 small dessert plates (1 cut in half). Have them staple or glue the plates together, as shown. Cut holes for the eyes.

Then suggest students add a mouth, nostrils, spots, etc.

Have students attach ribbon, string or yarn to each side of the mask.

Holstein Patterns No two Holsteins have the same pattern or spots. Have students create their own unique Holsteins. Give each student a **Cow Outline** activity sheet. Using black paint and a sponge or their thumb, have students create a Holstein pattern on the outline. Once the paintings are dry, have students examine their cow. Is there a distinguishing pattern? Have students think of a name for their cow. Display the Holsteins on a bulletin board. Add grass, flowers and trees to create a pastoral effect.

Reading Corner Display a collection of books about cows and dairy farming in your classroom or in the school library. Encourage students to read at least three books. For titles refer to the **Suggested Reading List**.