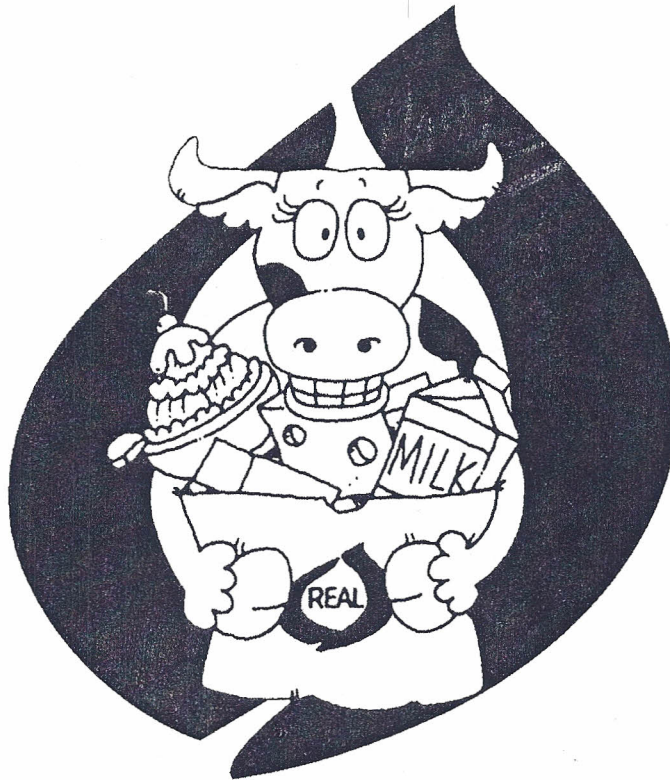


**Ag in the Classroom**

# Alabama Ag in the Classroom



# Dairy Unit

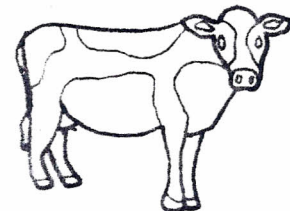
## Grass to Milk

*Objectives:* Students will

- Understand where milk comes from and how a cow processes food to make milk.
- Learn about dairy farms.
- Become aware of the different forms of milk.

*Materials Needed:*

- Small carton of liquid milk
- Box of nonfat dry milk
- Cups
- Cow color sheet
- Cow diagram sheet
- Props - Mouth-tongs, Rumen-bag filled with confetti, Reticulum-ruler, Abomasum-sponge, Omasum-funnel, Small Intestines-small slinky, Large Intestines-large slinky, Bloodstream-paper heart, Udder-empty milk carton
- Grass to Milk Cards



*Keywords:*

mouth, rumen, reticulum, omasum, abomasums, small intestine, large intestine, bloodstream, udder, nonfat, dairy, organs, stomach, digestive, ferment, nutrients, organic, acid, enzymes, microbes, cecum, organisms, ruminant, fertilizer, butterfat, automated, technology

*Brief description:*

Cows change grass and grains into milk. The dairy cow can do this because she is a ruminant, or an animal with four compartments to its stomach. Thanks to microbes that live in a cow's first two stomachs-the rumen and reticulum-a cow can digest plant materials that many other animals cannot.

The rumen and reticulum are two separate organs connected by a large opening through which food passes constantly. Since the two organs serve a single function they are often referred to as the reticulo-rumen. The microbes in these organs break down plant material through fermentation, releasing nutrients important for milk production.

Only particles under a certain size can then pass through a small opening leading to the third stomach, the omasum. The omasum recycles water and minerals and passes the food to the fourth stomach, the abomasums. The abomasums works much like the human stomach, secreting strong acids and enzymes to break down any undigested food.

As food then passes through the small and large intestines, it is further broken down, nutrients are absorbed and waste consolidated. The small pouch off the large intestine, known as the cecum, contains microbes that ferment undigested food one last time to extract remaining nutrients.

The nutrients released by these organisms are carried through the cow's body by the bloodstream. Some are delivered to the udder where they are transformed, drop by drop, into milk.



Unused material is passed from the cow in the form of manure. Rich in minerals and organic material, manure makes an excellent fertilizer for green grass. Not only does the cow provide us with nutritious milk, it also can fertilize the grass that it eats to produce more milk.

Ruminants do not have upper front teeth. They eat by wrapping their tongues around their food and pulling it into their mouths.

There are many different breeds of dairy cows and each breed varies in the amount of richness of milk produced. Some dairy farmers keep several breeds of cows in the herd in order to maintain a consistent quality of milk. Holstein-Friesian cows are large black and white cows. They produce the most milk, but the least butterfat. Holsteins are the most popular breed in the United States and adapt to all kinds of climates. Other types of dairy cows are Jersey, Guernsey, Ayrshire, Brown Swiss, and Milking Shorthorn.

The amount of milk a dairy cow produces varies from month to month. All dairy cows that produce milk are female and they cannot produce any milk until they give birth to their first calf. This occurs at approximately two years of age. A good milk-producing cow will give 20,000 to 30,000 pounds of milk per year.

On today's dairy farms, cows are milked two to three times a day with special automated milking machines. Automated equipment milks the dairy cows and carries the fresh milk to the cooler. The electric milking machine marked the end of the standard milking stool and the tiring job of milking by hand. With just two portable automated machines, a farmer can milk a dozen cows in one-fourth the time it used to take by hand.

Through product technology the usability of milk has been improved. In liquid form, milk can be stored in a refrigerator for several days. Milk, in powder or dry form, is made by removing fat and water. It has Vitamins A and D added to it and has a longer shelf life than liquid milk. Nonfat dry milk does not need to be refrigerated when stored in the powder form. Through the use of technology, milk production has been increasing for more than 25 years in the United States.

#### *Lesson:*

1. Ask the students for their impressions of the saying "You are what you eat". What happens to the food they eat once it is inside their bodies? Discuss the amazing transformation of food into the basic nutrients our body needs for growth and development. In the case of mammals, the food they eat can also be transformed into milk to feed their babies.
2. Divide the class into nine groups. Explain that each group will represent a part of the cow involved in the transformation of green grass to the milk we drink. Using the cow diagram and background information describe the dairy cows digestive system.
3. Pass out a *Grass to Milk* card to each of the groups. Ask them to read their card carefully. Point out that the words in italics provide valuable clues to the function(s) of their part.

4. Show the students the nine packets of props (mouth, rumen, reticulum, omasum, abomasums, small intestines, large intestines, bloodstream and udder). Explain that they represent the various roles each of the nine parts plays in the milk-making process. Have groups select the bag of props that best matches the function of their part.
5. Now ask the students to select an answer card listing their identity. Before making their selection, encourage groups to share the information on their *Grass to Milk* cards with other groups. Point out those important clues may be found on cards held by their friends.
6. Now ask the groups to put their answer cards and props into the sequence of the grass to milk story. Remind the class that two end products are formed, so that at some point the sequence will branch.
7. Review the sequence giving each group a chance to describe and demonstrate their role in the milk-making process using the props.
8. Have the older students label the digestive system on the cow diagram sheet.
9. Begin a discussion of milk by asking where milk comes from, if it is a solid or a liquid, what kinds of containers it comes in, if it always has to be kept cool, etc?
10. Show a box of nonfat dry milk. Read the information on the box.
11. Explain that through technology, powdered milk was milk that had the water and fat removed, making the shelf life longer than fresh milk.
12. Make some milk from powder. Have the students taste the fresh milk and milk made from powder.
13. Have the class list ways the powdered milk and fresh milk could be used.
14. List the advantages and disadvantages of liquid milk.
15. List the advantages and disadvantages of powdered milk.
16. Have the students color the cow their favorite breed. You could have students research or look up pictures to see what different breeds of dairy cows look like.

*Assessment:*

Students should understand how cows make milk. They should also understand that milk comes in a variety of forms and what those forms are.

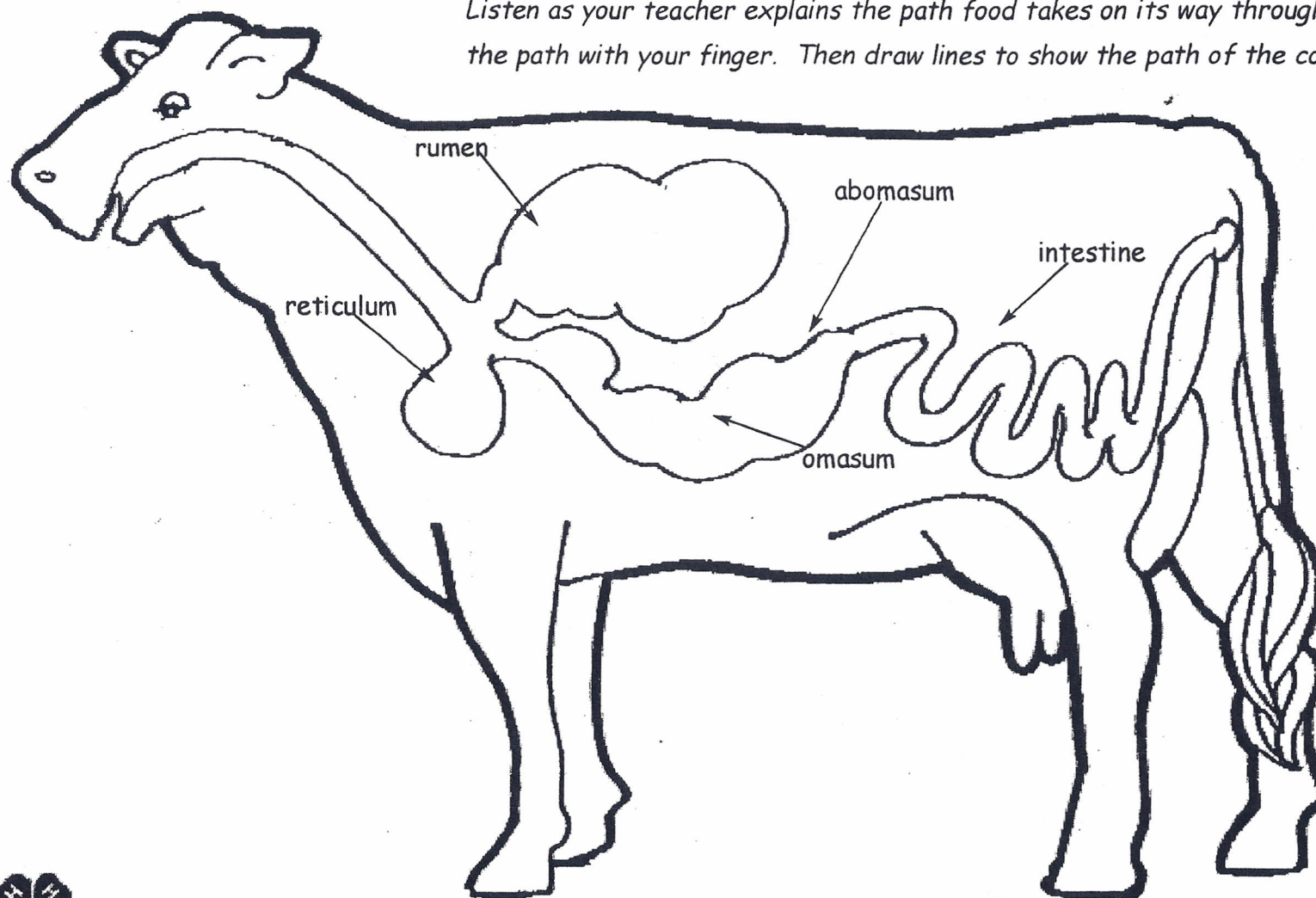
*Additional Resources:*

The Milk Makers by Gail Gibbons  
From Cow to Ice Cream by Bertram T. Knight  
Hooray for Dairy Farming by Bobbie Kalman  
Milk From Cow to Carton by Alike  
Extra Cheese, Please by Cris Peterson  
Out and About at the Dairy Farm by Andy Murphy

Name \_\_\_\_\_

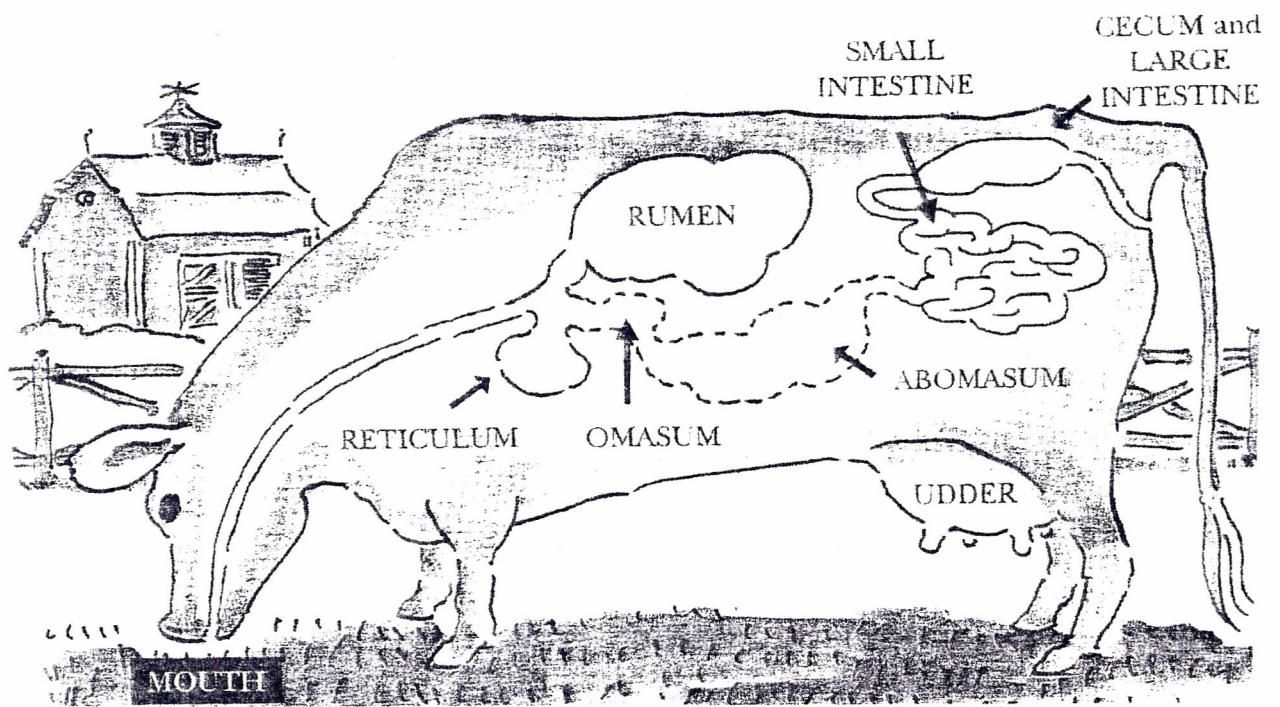
## Chew It Twice

*Listen as your teacher explains the path food takes on its way through the cow. Follow the path with your finger. Then draw lines to show the path of the cow's food.*



Produced by Oklahoma Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, OSU, in cooperation with the Oklahoma Department of Agriculture, Food, and Forestry and the Oklahoma State Department of Education, 2002





## Grass to Milk Card

Cows are notorious for eating on the run. While out grazing in the field they use a strong muscle to grab vegetation and swallow it whole! Then they move on to the next clump. Later the cow burps up a ball of food, called a bolus or cud, which it then chews and chews. Cows can spend up to eight hours a day chewing their cud or ruminating. The food is ground up and mixed with a white foamy froth. This froth acts like an antacid to keep the acidity level in the first stomach, the RUMEN just right for digestion.

**What am I?**

**How do I begin the digestive process?**

*Answer: I am the MOUTH. I grab food with my tongue, grind it up with my single set of bottom teeth, and buffer it with my saliva.*

## Grass to Milk Card

I am a very large organ and can hold up to 25 gallons of food. Most of the vegetation a cow eats comes to me looking much like it did when it was growing in the field. I work like a large fermentation vat along with my partner in digestion, the RETICULUM. We have a whole colony of microscopic organisms living inside of us that breaks down tough plant fibers without using oxygen! My muscles work to mix, moisten, churn and blend the food with these microbes. Important nutrients are then released and absorbed by the bloodstream. They are a major energy source for the cow and are important in milk production.

**What am I?**

**What is my role in digestion?**

*Answer: I am the RUMEN. I blend and churn food, while a bacterium inside me breaks the food down through a process called fermentation. Important nutrients are then released and absorbed by the bloodstream.*

## Grass to Milk Card

The true stomach sends digested food and waste my way. More nutrients and water are released and absorbed through my walls into the bloodstream. I expand and contract to move the leftovers along my twisting path to my larger neighbors and relations, the CECUM and LARGE INTESTINE.

**What am I?**

**How do I begin function?**

*Answer: I am the SMALL INTESTINE. I absorb remaining nutrients and pass them into the bloodstream. By expanding and contracting I move leftovers along my long twisting path.*

## Grass to Milk Card

The SMALL INTESTINE passes its leftovers to me. These are fermented by bacteria in the CECUM and any remaining nutrients and water are absorbed through my walls into the bloodstream. I expand and contract to move the remaining unusable material to the end of the line. It comes out as cow manure, rich in minerals and organic matter. It fertilizes the green grass that can then be turned into more milk.

**What am I?**

**What is my role in digestion?**

*Answer: I am the LARGE INTESTINE and CECUM. I expand and contract to keep unusable food moving along. The cecum, a small pouch like extension, with its associated bacteria, ferments the leftovers one last time and any remaining nutrients and water are absorbed. The final product is manure, a rich fertilizer.*

## Grass to Milk Card

I take all the nutrients absorbed from the RUMEN, RETICULUM, OMASUM and ABOMASUM and carry these throughout the cow's body. Think of me as a mass transit system, powered by a strong muscular pump that keeps nutrients moving continuously along. In a mother cow, I deliver important nutrients to the UDDER where they are used to make milk for her new calf.

**What am I?**

**What is my main function?**

*Answer: I am the BLOODSTREAM. My heart pumps the blood, which is important nutrients throughout the cow's body.*

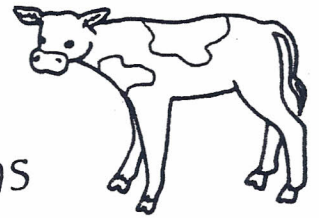
## Grass to Milk Card

When a cow has a calf I kick into action to feed the little tyke. The BLOODSTREAM delivers nutrients through tiny capillaries to each of my four chambers. Within these chambers, milk-making alveoli use the nutrients to form milk, drop by drop. It takes 50-70 hours for a cow to turn green grass into white milk.

**What am I?**

**What do I do?**

*Answer: I am the UDDER. I make and store milk until the calf or farmer milks it out.*



# Some Interesting Cow-culations

**Objective:** Students will develop critical thinking skills and practice basic math calculations.

**The average dairy cow produces 90 glasses of milk each day. To do this, the cow must drink 25-50 gallons of water and eat about 30 pounds of hay daily.**

1. Mrs. Knight has 35 cows in the pasture and 28 cows in the barn. How many cows does she have all together?
2. Mr. Fields has 56 cows, 45 calves, and 5 bulls. How many does he have all together?
3. Mr. Smith has 136 cows and Mr. Johnson has 79 cows. How many more cows does Mr. Smith have than Mr. Johnson?
4. Mr. Jones has eight cows. If each one eats 30 pounds of hay a day, how many pounds of hay do they eat all together in a day? In a week?
5. Mrs. Flowers has five cows. Each one produces 90 glasses of milk a day. How much do they produce all together in one day? In a week?
6. A cow drinks 30 gallons of water each day. How many quarts does one cow drink? How many pints?
7. Mr. Flowers is putting a new electric fence around his pasture. The pasture is 310 ft. long and 235 feet wide. How many feet of fencing will he need to buy? If electric fence wire comes in 200 ft. rolls, how many rolls does he need to buy? How much will he have left over?

**Answers:** 1) 63 cows; 2) 106 all together; 3) 57 more; 4) 240 pounds, 1,680 pounds;  
5) 450 glasses, 3,150 glasses; 6) 120qts, 240 pts.; 7) 1,090 feet of fencing, 6 rolls,  
110 feet left over.

## How Heavy IS That Cow??

**Objective:** Students will be able to estimate the number of students it takes to equal the weight of one cow.

The black and white Holstein cow is the most popular dairy cow in the United States. One Holstein cow usually weighs about 1,500 pounds! How much is that? To get an idea:

1. Ask students to estimate how many students it will take to equal the weight of one cow.
2. Ask each student to write his/her weight on a slip of paper.
3. Collect the slips and read the numbers aloud.
4. Have the class keep a running total of the weights until they reach 1,500 pounds.

\_\_\_\_\_ kids = weight of one Holstein cow

5. Keep going until all of the weights have been added. How many cows could it take to equal the weight of your class?

Our class weight = \_\_\_\_\_ Holstein cows weight

# Graph It !

Most children enjoy eating ice cream. The following graphing ideas get students thinking about math concepts in a way that is designed to appeal to even the most finicky of palates.

**Objective:** Students will create bar graphs.  
Students will be able to read and interpret a graph.

- ☞ Our Favorite Ways to Eat Ice Cream (cone, sundae, milkshake, etc.)
- ☞ Our Favorite Flavors of Ice Cream
- ☞ Flavors of Ice Cream Preferred by Teachers at Our School
- ☞ Third Graders' Favorite Milk  
(survey students in the lunch line - chocolate, strawberry, white)
- ☞ Do You Prefer Regular or Soft-Serve Ice Cream?
- ☞ How Many Glasses of Milk Do You Drink Each Day?
- ☞ What is Your Favorite Dairy Product?

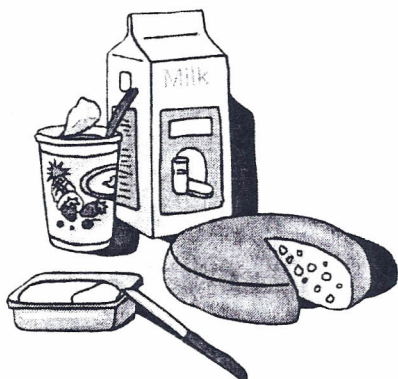
After completing the graph with your students, ask them questions based on the information it contains. Questions might include but are not limited to the following:

**NOTE:** Fill in the blanks with topics from the completed graph

1. How many students chose \_\_\_\_\_?
2. How many more students chose \_\_\_\_\_ than \_\_\_\_\_?
3. Which was the favorite choice?
4. Which was the least favorite choice?

## The Writing Connection: The Perfect Sundae

1. Work with the class to develop a web of ideas (flavors, textures, smells, tastes, toppings). Record them on the overhead or a large sheet of paper.
2. Direct students to write a rough draft by telling them that they have 15-20 minutes to get their ideas down on paper. Spelling and punctuation will be corrected later.
3. Tell students to look over their completed drafts for spelling, capitalization, and punctuation errors.
4. Pair students for peer-editing. As they read their paragraph to a partner, ask the partner to listen carefully so he/she can provide helpful suggestions.
5. Rewrite, making all necessary corrections and revisions. Illustrate and share.



## Test for Fat

**Which dairy products have the most milk fat?**

**What is Milk Fat?** Sometimes called butterfat, it is the fat in the milk.

### **You will need:**

- a large piece of brown grocery bag
- samples of different kinds of milk products, as many as possible:
  - table cream, whipping cream, skim milk, whole milk, sour cream, whey (from our recipe), 2% milk, half and half, and butter

### **Procedure:**

1. Put a drop from each of your milk products samples onto the grocery bag paper.
2. Label each drop, so that you can remember afterwards which is which.
3. Leave the brown paper alone until the moisture has dried from the samples.
4. Compare the spots that are left. Do you notice any differences? Some of the spots will look greasier than others.
5. Hold the brown paper against a window when it is light outside. Which grease spots let the most light through? The more milk fat in the sample, the more light gets through.

### **Fat Content of some dairy foods.**

**Whey—almost no milk fat**

**Skim milk—0.1% milk fat**

**2% milk—2% milk fat**

**Whole milk—3.25% milk fat**

**Half and half —10% milk fat**

**Sour cream—14% milk fat**

**Table cream—18% milk fat**

**Whipping cream—35% milk fat**

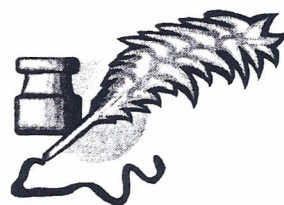
**butter—80% milk fat**

## Make invisible messages with milk



### You will need:

- An old pen with a nib you dip into ink, or a fountain pen  
or a feather pen
- milk
- unlined white paper
- a lamp

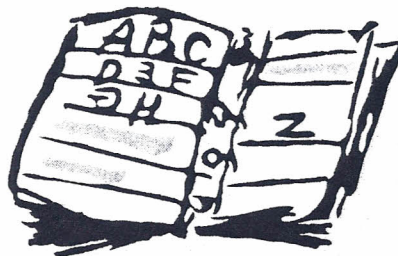
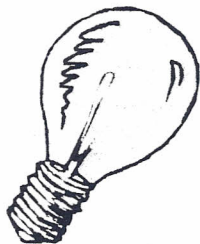


### Procedure:

1. Dip the nib of your pen into the milk. Carefully print your message on the paper. Don't press too hard, and don't use too much milk.
2. Let the milk dry on the paper until the message has disappeared. This may take an hour.
3. The message will reappear by holding the paper over the light bulb to heat the paper ( but not too close—you don't want to burn the paper.)

### Why does it work?

All milk contains proteins. The heat from the light bulb causes the protein in the milk to burn. When the protein burns, it turns from white to brown and the message shows up.





## Make Miss Muffet's Curds and Whey

Miss Muffet was sitting  
on her tuffet eating her  
curds and whey. It was  
like cottage cheese, but  
wetter and more sour.



### You will need:

- 2 cups of milk (nonfat if you are going to make glue).
- saucepan
- 3 tbs of vinegar or lemon juice
- wooden spoon
- bowl

### Procedure:

1. Pour the milk into the saucepan. Add the vinegar or lemon juice.
2. Heat the milk mixture on low heat, stirring slowly until the milk curdles (makes curds) - about eight minutes.
3. Remove the saucepan from the heat, but keep stirring until all the curdling stops. You will see solids (curds) and liquid (whey).
4. Put the mixture in a bowl and refrigerate. When the curds and whey are cool. They will be ready to eat. Taste them. Add salt or sugar if you like.

### Why does it work?

When you add acid like vinegar or lemon juice to milk, you change the shape of the casein. In its changed shape the casein clumps together (coagulates). To form the solid curds. Heat helps separate the curds from the liquid (whey). Another ingredient that makes milk coagulate is an enzyme called rennet which is used in making hard cheese. The curds contain fat if nonfat milk is used, casein protein and vitamin A. They  
Whey is 93% water.



# Milk Glue

**Make the same white glue that you use to glue paper.**

## **You will need:**

milk curds (follow instructions for Miss Muffet's curds and whey)  
colander  
paper towels  
mixing bowl  
water (1/4 cup)  
baking soda (1 tbsp)  
wooden spoon  
air tight container



## **Procedure:**

1. Pour the curds and whey through a colander lined with a paper towel.
2. Blot the curds dry with a paper towel.
3. Put the curds into a mixing bowl.
4. Add the water and the baking soda to the curds in the bowl and stir. You should see some tiny bubbles. Beat until the mixture is smooth.
5. Store your glue in the refrigerator in an air tight container so that the glue won't dry out.

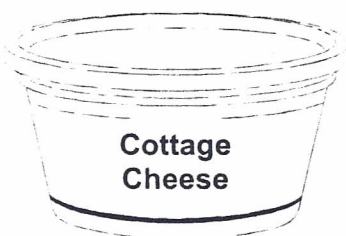
## **Have some fun!**

**Add food coloring to your glue just for fun.**

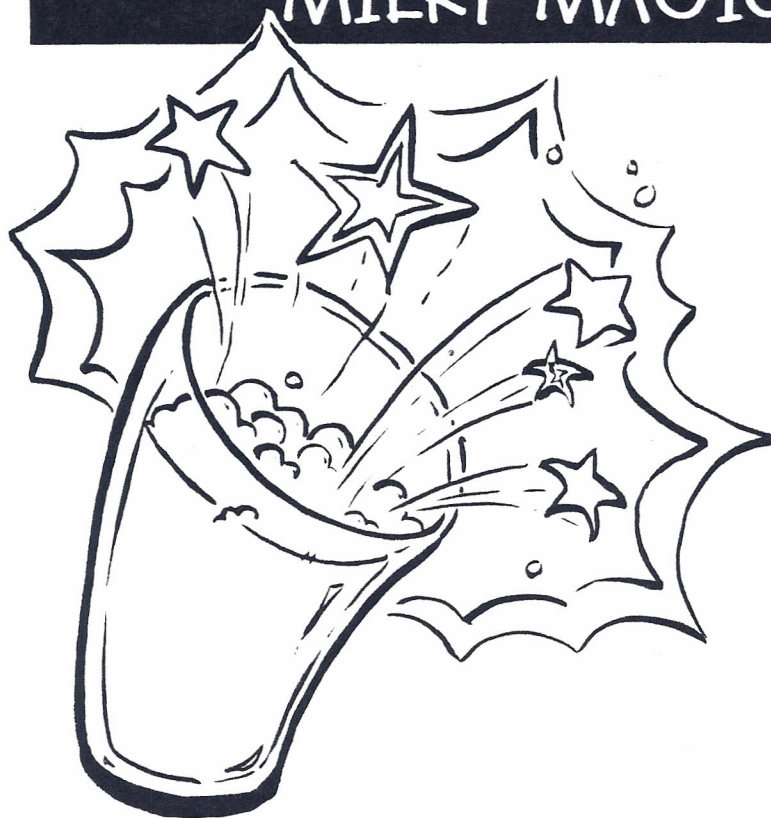
**Glue two pieces of paper together to test the strength of your glue.**

## **Why does it work?**

**Casein is the ingredient in the curds that make the glue work. It has many other uses. Research other materials that use casein as one of their ingredients.**



# MILKY MAGIC



## **Materials**

- Petri dishes
- Milk, skim milk, half & half
- Water
- Food coloring
- Dishwashing liquid

## **DIRECTIONS**

### **Objective:**

This project allows students to study the movement of molecules in different liquids.

### **Procedure:**

1. Place a drop of food coloring in a glass of clear water and ask students to observe.

Ask them to predict what will happen when food coloring is added to milk.

2. Pour milk into petri dish and allow students to put one drop each of two different food colorings into the milk.

Have them observe and describe what happens.

3. Direct students to place a small drop of liquid dish detergent between the two drops and observe.

### **Concept Development:**

Guide students to a discovery of the various forces at play on the globules of fat within the milk. They should be able to understand that one end of the long soap molecule attracts the fat. As the fat moves toward the soap the water is forced away. The color dissolves in the water and not the fat. Therefore as the water moves away, the color goes with it.

Ask students to predict what will happen if the same procedure is followed for skim milk and for half & half.

# PIZZA STARTS ON THE FARM



## Materials

- Cookie sheet
- 1 Tablespoon dry yeast
- 1 cup water
- 1 Tablespoon sugar
- 1 ½ teaspoon salt
- 2 Tablespoon vegetable oil
- 3 ¼ cups flour, divided
- 1 cup pizza sauce
- Pizza toppings
- 2 cups shredded mozzarella cheese
- 2 tsp. Italian seasoning

## DIRECTIONS

### **Background:**

Pizza crust is made from **WHEAT**. Farmers plant tiny wheat kernels in the ground using a grain drill. Wheat looks like fresh new grass when it comes out of the soil, and grows to be about two feet high.

The farmer harvests the wheat and hauls it in trucks or wagons to the country grain elevator where it can be stored. From there it is shipped by truck, rail or barge to a terminal, where it is exported or sold to various industries which make animal feed or food.

### **Directions:**

1. Dissolve yeast in water.
2. Add sugar, salt, vegetable oil and 1 ¼ cups flour.
3. Beat until smooth. Knead in remaining flour.
4. Cover the dough and let it rise in a warm place for one hour.
5. Flatten dough on a cookie sheet.
6. Spread pizza sauce over the dough.
7. Personalize your pizza with toppings such as sausage, pepperoni, mushrooms, green peppers or onions.
8. Sprinkle cheese and Italian seasoning over the pizza.
9. Bake at 375° for 15-20 minutes. Allow to cool before eating.

# HOMEMADE BUTTER



## Materials

- Jar (pint-sized). Can be plastic or glass. 2-oz. cups with lids also work well.
- Heavy whipping cream, preferably at room temperature
- Salt
- Crackers

## DIRECTIONS

**Butter is made from the cream part of milk. Cream is lighter than the rest of the milk and it floats to the top, where it can be skimmed off and packaged separately. One pound of butter is made up of the cream found in ten quarts of milk.**

**The richer the milk is in butterfat, the more butter it will make.**

**The Jersey breed of cattle gives the milk with the highest percentage of butterfat. The Holstein breed gives the milk with the least butterfat. Holstein cows are the most common breed of cattle in the United States because they produce the greatest quantity of milk.**

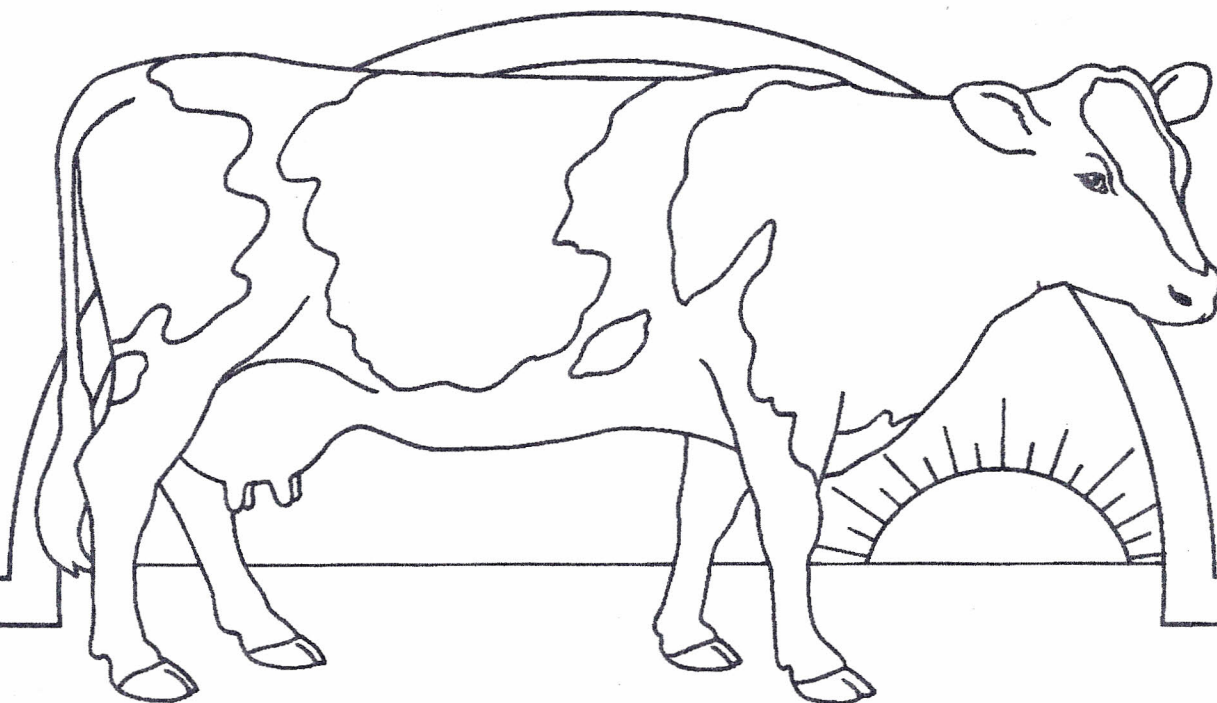
1. Fill jar or cup  $\frac{2}{3}$  full with whipping cream. Firmly secure lid. Be sure to leave some space in the container.
2. Shake container briskly for 5-10 minutes (the more cream in the container, the longer it will take). Continue shaking until the butter is a solid lump in the jar. Once the butter has formed, open the container and pour off the buttermilk.
3. To make salted butter, add salt after the butter is formed.
4. Spread butter on crackers and enjoy.

## Variations:

- For an experiment, try salting before shaking.
- Experiment by having students record temperature of cream when beginning, length of time and number of shakes it takes for butter to form.
- Instead of using heavy whipping cream (44 percent cream), try using light cream (18 percent cream), regular milk (3.5 percent cream), 2% milk (2 percent cream). Have students compare the results.

Name: \_\_\_\_\_

# 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.**

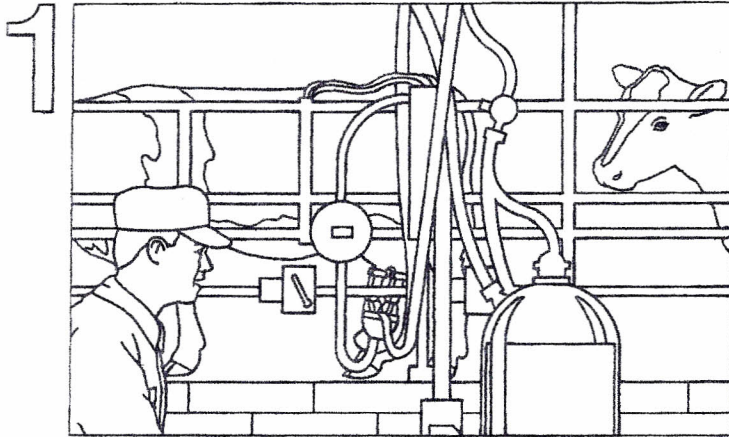
**A cow gives 100 glasses of milk each day.**



**American Dairy Association  
of Illinois**  
One West Front Street  
El Paso, Illinois 61738

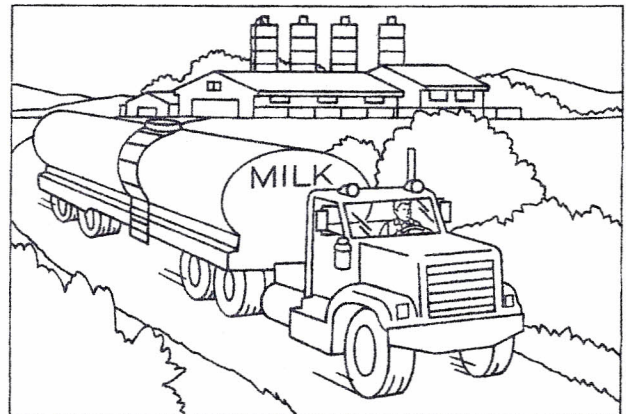
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# From Farm to You



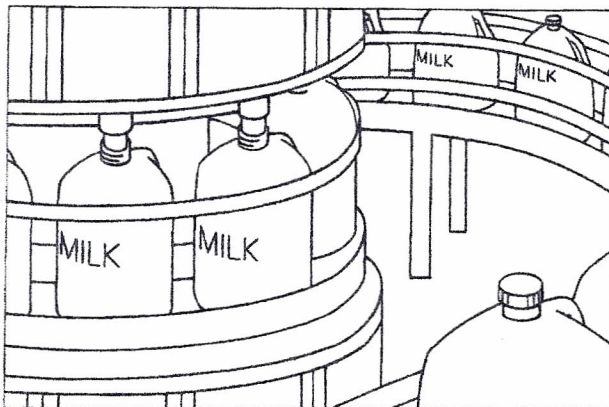
The cow is being milked.

2



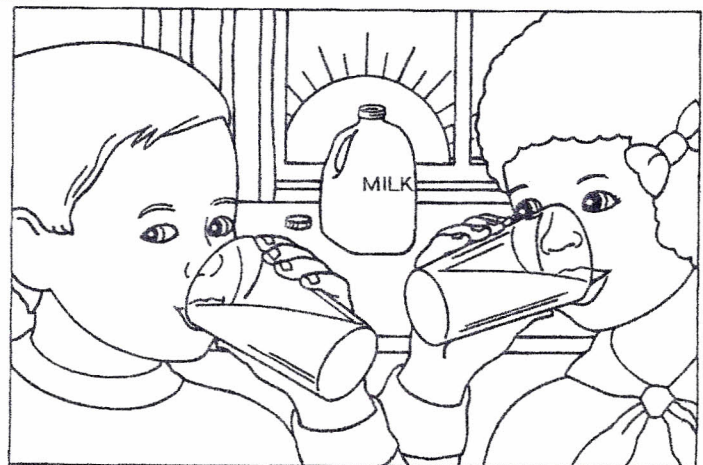
A truck takes the milk from the farm to the dairy plant.

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.



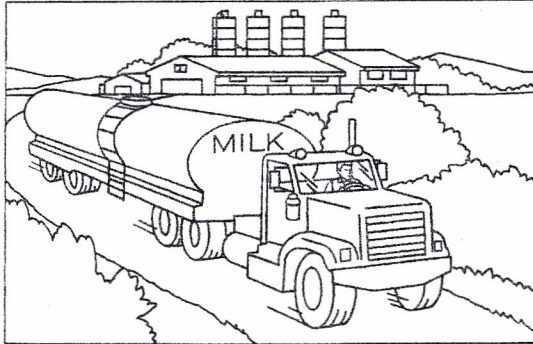
**American Dairy Association  
of Illinois**  
One West Front Street  
El Paso, Illinois 61738  
Telephone: 309/527-4095

Name: \_\_\_\_\_

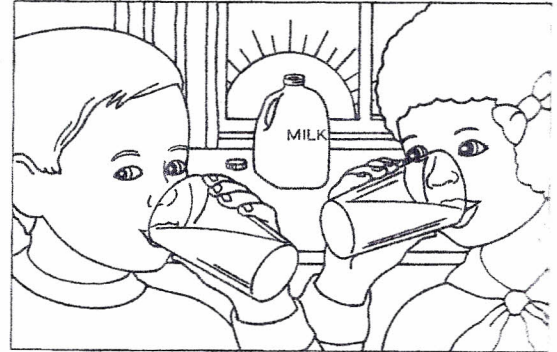
# From Farm to You Activities

How do you get milk to drink?

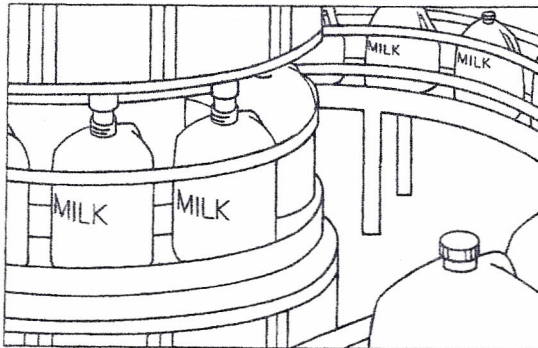
Number the pictures in order 1, 2, 3, and 4.



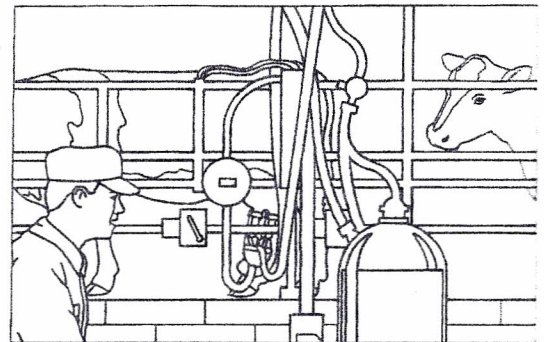
From farm to dairy plant



Milk for you

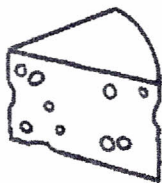


Dairy plant

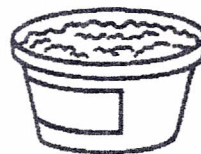


Milking

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



ch\_\_s\_\_



c\_\_t\_\_g\_\_

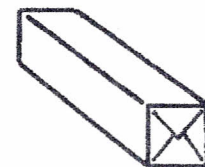
ch\_\_s\_\_



y\_\_g\_\_rt



\_\_c\_\_  
cr\_\_m



b\_\_t\_\_r



American Dairy Association  
of Illinois

# On the Moo-o-o-ve With Delicious Dairy Treats

*Children love ice cream and even the youngest student can help create tasty treats with these easy receipes.*



## Freezer Bag Ice Cream

**Ingredients:** (yields one serving)

- 1/2 cup half & half
- 1 tablespoon sugar
- 1/4 teaspoon vanilla

**Materials:** (per student)

- 1 quart ziplock bag
- 1 gallon ziplock bag
- rock salt
- crushed ice

**Directions:**

1. Mix half & half, sugar, and vanilla in the small bag.
2. Seal bag, removing as much air as possible.
3. Mix 2-3 cups of ice and some rock salt in the large bag.
4. Insert the small bag and seal shut.
5. Knead for 3 to 5 minutes.

**Have children wear gloves or mittens for this activity.**

## Yogurt on a Stick\*

**Ingredients:**

- 1 6oz. can frozen orange or grape juice concentrate
- 1 pt. plain yogurt
- 1 teaspoon vanilla

**Supplies:**

bowl, spoon, ice cube tray, popsicle sticks

**Directions:**

1. Mix ingredients until well blended.
2. Pour into ice cube tray and freeze partially.
3. Insert popsicle sticks and freeze solid.
4. Pop out and enjoy!

## "Rock & Roll" Ice Cream (makes 3 cups)

**Ingredients:**

- 2 cups half & half
- 1/2 cup sugar
- 1/2 teaspoon vanilla

**Materials:**

- 1-1lb coffee can with tight fitting plastic lid
- 1-3lb coffee can with tight fitting plastic lid
- 2 cups rock salt
- crushed ice
- tape

**Directions:**

1. Mix together ingredients in 1lb coffee can. Secure lid with tape.
2. Place can with ingredients in 3 lb coffee can.
3. Pack crushed ice around the smaller can. Spread 3/4 cup rock salt evenly over the crushed ice.
4. Secure lid of large can with tape.
5. Roll can around for about 10 minutes.
6. Open cans and stir ice cream mixture with spatula. Replace lid and retape. Drain water from larger can, adding more ice and rock salt. Close and tape. **Rock and roll** for about 5 more minutes.
7. Eat and enjoy!

## In the Moo-oo-ood For Milk

### *Banana Booster*

#### *You will need:*

electric blender                      measuring spoons  
liquid measuring cup              table knife  
paper cups

#### *Ingredients:*

3 ripe bananas   3 cups cold milk   3 tbsp. honey   1 tsp. vanilla extract

1. Peel and carefully slice bananas. Put in blender container.
2. Pour milk over banana slices.
3. Put honey and vanilla in blender.
4. Put top on blender.
5. Press BLEND button and let mix just until smooth and frothy.
6. Carefully pour into cups. Serve immediately.

### *Purple Cow*

#### *You will need:*

vanilla ice cream   grape juice   paper cups   ice cream scoop   spoons

1. For each student, put two scoops of vanilla ice cream in a small paper cup.
2. Pour grape juice over it. Enjoy!

### *Orange Dream Shake*

#### *You will need:*

ice cream scoop   liquid measuring cup   paper cups   electric blender

#### *Ingredients:*

1 6 oz. frozen orange juice concentrate, partially thawed   3 scoops vanilla ice cream  
3 cups cold milk

1. Pour orange juice concentrate in blender.
2. Put scoops of ice cream in blender.
3. Pour milk over ice cream.
4. Put top on blender
5. Press BLEND button and let mix until smooth and frothy,
6. Carefully pour into cups. Serve immediately.

For variety, substitute different frozen juices.

# BEAUTIFUL BOVINE

1

SUBJECTS: Language Arts, Science, Visual Arts, Social Studies

STUDENT SKILL: (LA)The student will respond appropriately to directions and questions. (Science)The student will classify a set of simple objects, familiar organisms, and/or observable events by observable properties.

OBJECTIVE: To demonstrate some of the body parts of a cow to show a cow is different from a human.

## BACKGROUND

How is a cow different from you and me? Cows have four legs instead of two. It's a good thing they are built the way they are, since they get much of their food from the ground. Cows have hooves instead of feet. They do have toes, but only two on each hoof. The hooves of cattle help loosen up the soil so new grass can grow more easily.

The ears of a cow are much larger than ours and help transfer heat. Breeds that originated in warmer climates have larger ears and looser skin to help their bodies get rid of heat. Some cattle can even use their ears to fan themselves in warm weather. Loose skin also protects the cattle from insect bites.

Cows have tails, which is a good thing, since they don't have hands to swat away the flies, like we do.

A female cow has an udder that produces milk after she has had her first calf.

Both male and female cows are born with horns (unless they are a polled breed), and sometimes the farmer has the veterinarian remove them. A male is called a "bull," and a female is called a "cow."

Cows have four stomachs, while we have only one.

The cow's long tongue feels like sandpaper and helps pull in the grass and hay that she eats.

## ACTIVITY

1. Assemble the pretend parts of a cow as follows:
  - udder—Stuff surgical glove with tissue. Attach yarn to tie around student's waist.
  - horns and ears—Cut cardboard in the shape of a cow's ears

MATERIALS  
surgical glove

yarn

fly swatter

plastic headband

cardboard

four socks

sand paper

four balloons

large bag

elastic

yarn

mirror



VOCABULARY

udder

breed

poll

hoof

veterinarian

and horns, and attach them to a plastic headband.

hooves—Cut four cardboard hoof prints, and attach them to the bottoms of the four socks.

tongue—Cut sand paper in the shape of a cow's tongue.

Attach yarn to tongue to hang around student's head.

stomachs—Blow up four balloons, and tie them together.

Place the props in the large bag.

2. Ask one of your students to volunteer to be dressed up to look like a cow. To avoid embarrassing any of your students, ask your principal or another adult to be the volunteer.
3. Ask students to imagine what a cow looks like and what special parts it has that are different from a human. What makes a cow a cow?
4. Ask students to suggest ways to make the volunteer look like a cow. As they come up with ideas, dress the student volunteer with the props in your bag. Share background information regarding each body part as you dress up your volunteer. If the volunteer is a student, hold the mirror so he or she can see why the others are laughing.
5. Hand out the student worksheet, and have students write down the differences between a cow and a human.

Lesson adapted from Project Seasons, Shelburne Farms, 1995.

ADDITIONAL ACTIVITIES

1. Ask your students to solve this math problem: A cow has two toes on each hoof. People have five toes on each foot. A cow has four hooves. Which has more toes, a cow or a person?
2. Have students discuss differences between themselves and other animals and explore the reasons for these differences.
3. Ask students what makes them different from their classmates. List all the suggestions on the chalkboard and make a graph based on hair color, eye color and other differences suggested by students.
4. Have students work in groups to design their own cows. Assign each person in the group to one part of the cow, and then have the groups put all the parts together to form one cow. Have the groups share their creations with the class.
5. Poke holes in the ends of the fingers of surgical gloves. Fill with water, and tie off glove. Hang the gloves from a drying rack placed outside on the sidewalk, and let students "milk" the glove's fingers.

Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, 4-H Youth Development, in cooperation with the Oklahoma Department of Agriculture, Food and Forestry, and the Oklahoma State Department of Education.

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<http://www.agclassroom.org/ok>



## BOOKS

Grave, Marc, and Grace Goldberg, *Farm Animals*, McClanahan, 1997. (Board Book)

Sill, Cathryn, and John Sill, *About Mammals: A Guide for Children*, Peachtree, 1998.

Walsh, Melanie, *Do Pigs Have Stripes?* Houghton Mifflin, 1996.

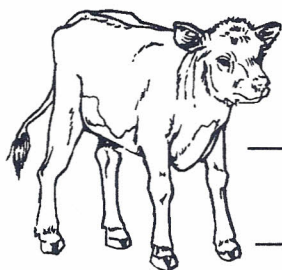
## EVALUATION

Were students able to understand why cows are different from people?

Name \_\_\_\_\_

# Beautiful Bovine

Can you think of some ways that a person and a calf are alike? How are they different? Be sure to include eyes, hair, legs, etc.



Different  
Calves moo.

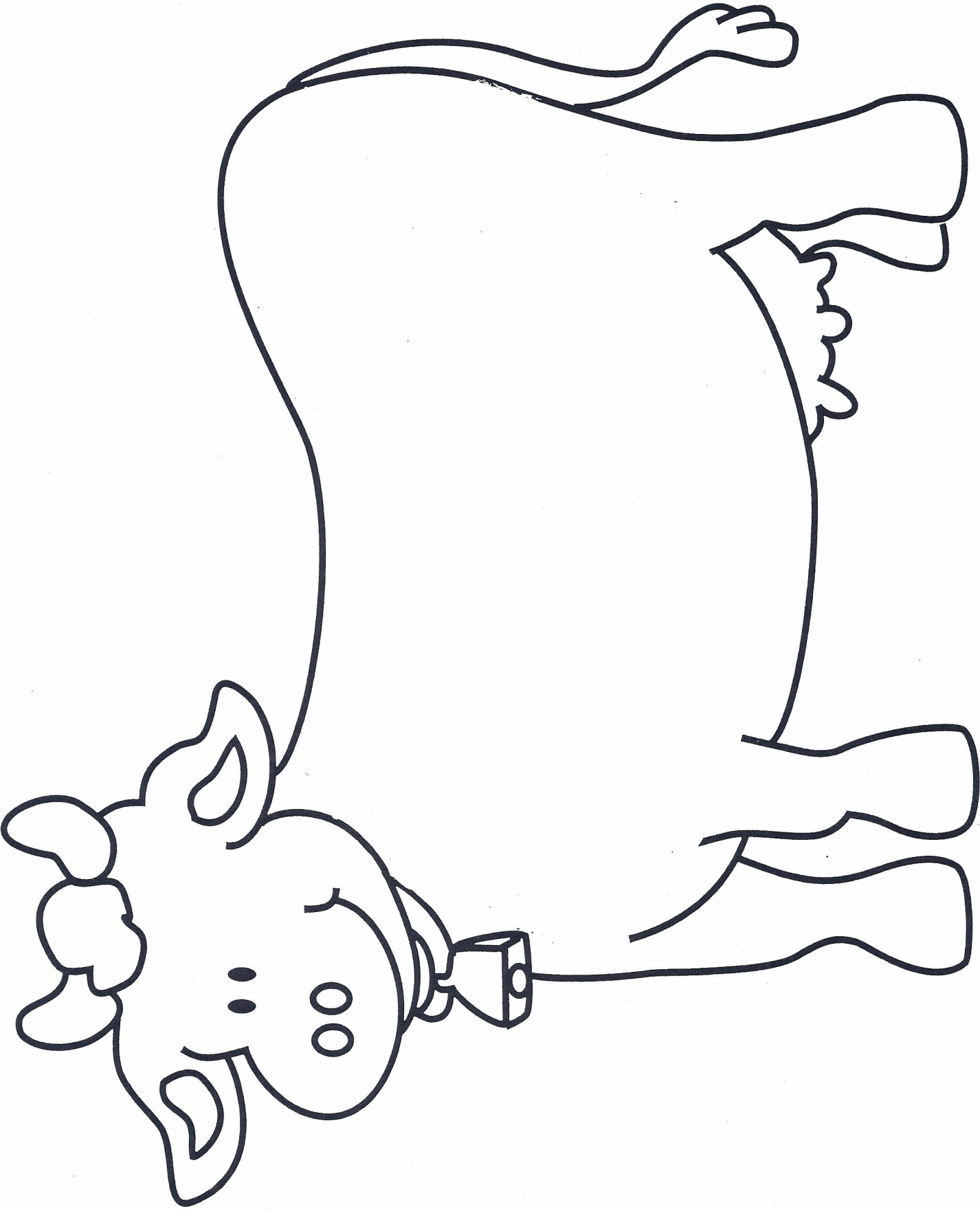
Alike

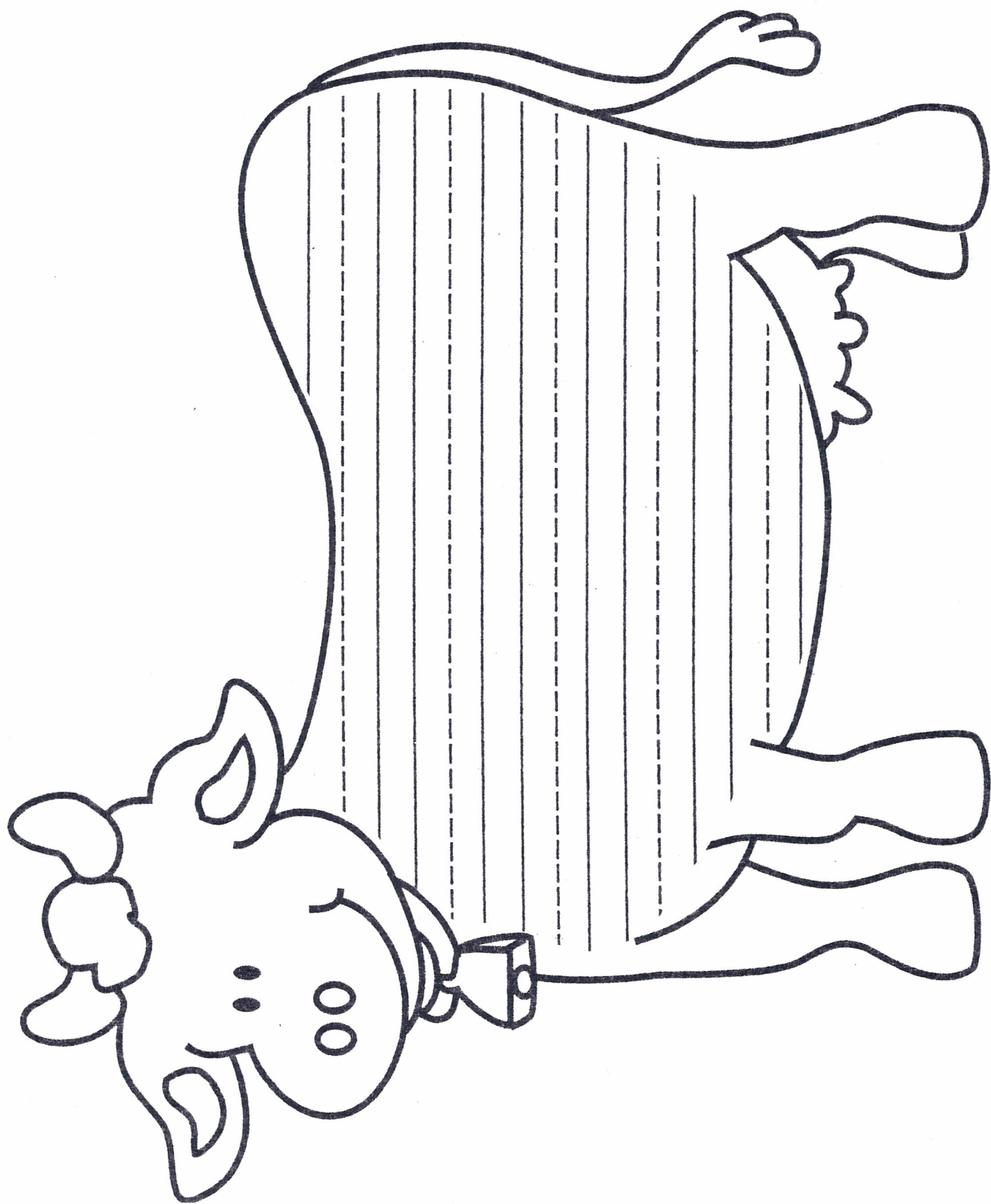
Both have eyes.



Different  
People speak.



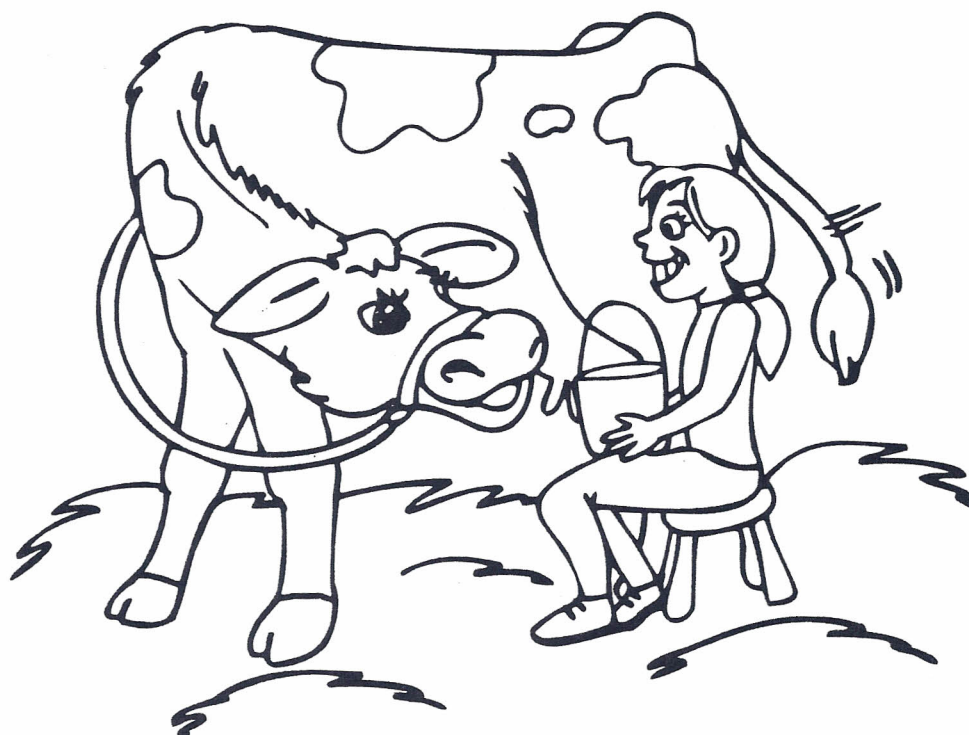




M

**M is for milk.**

It makes a body grow. We get  
whipping cream, butter and cheese  
from milk.



# Project Directions

## COW

Pattern:

### Materials:

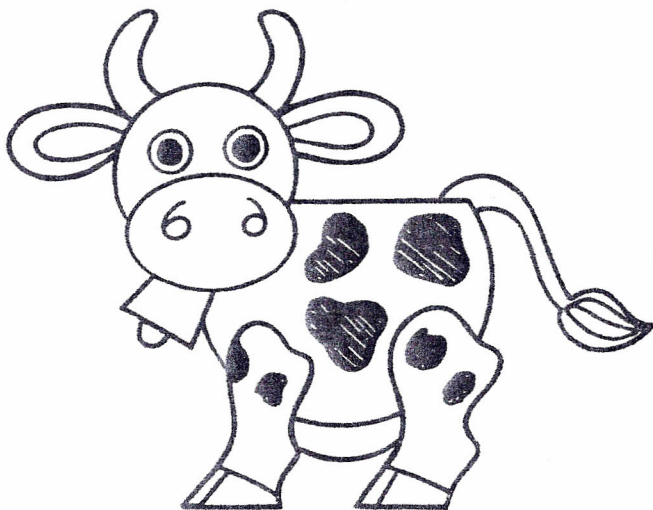
One 9" white paper plate

Two 6" white paper plates

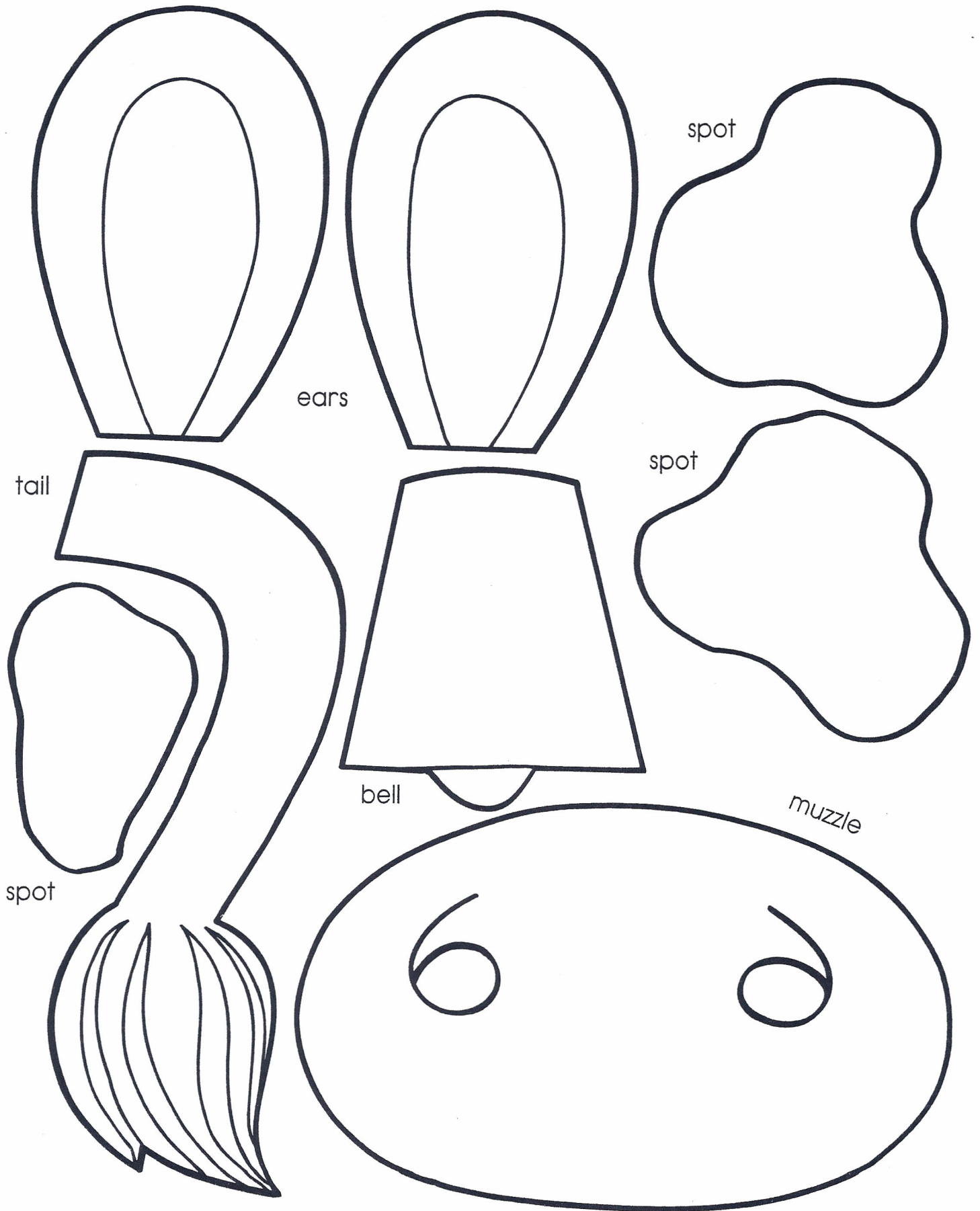
black paper, white paper, pencil, scissors, crayons or markers, glue

Patterns can also be copied onto white paper and colored with crayons or markers.

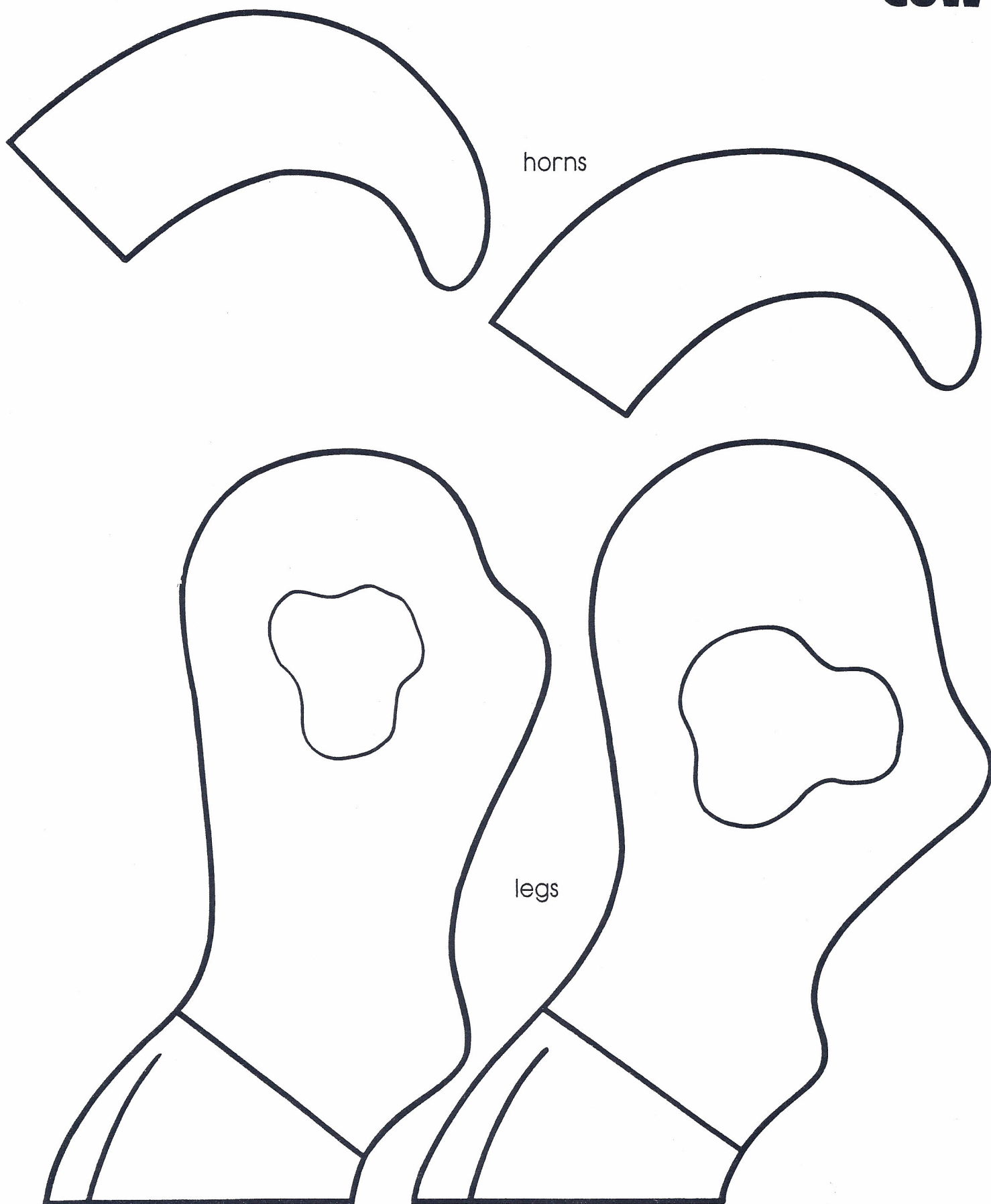
1. Cut straight across a 9" plate 2" from the top. This will be the body. This plate should face down.
2. Glue a 6" plate to the top left of the 9" plate. This will be the head. This plate will face up.
3. Cut the other 6" plate in half. Glue half of the plate, facing up, to the bottom of the 9" plate. This will be the udders.
4. Glue the muzzle to the bottom third of the head.
5. Glue the ears to each side of the head.
6. Glue the horns between the ears so that they curve inside.
7. Draw eyes above the muzzle.
8. Glue the bell under the head.
9. Glue the spots on the body.
10. Glue the tail to the top edge of the body.
11. Glue the legs to the bottom third of the body.



# Cow



# Cow

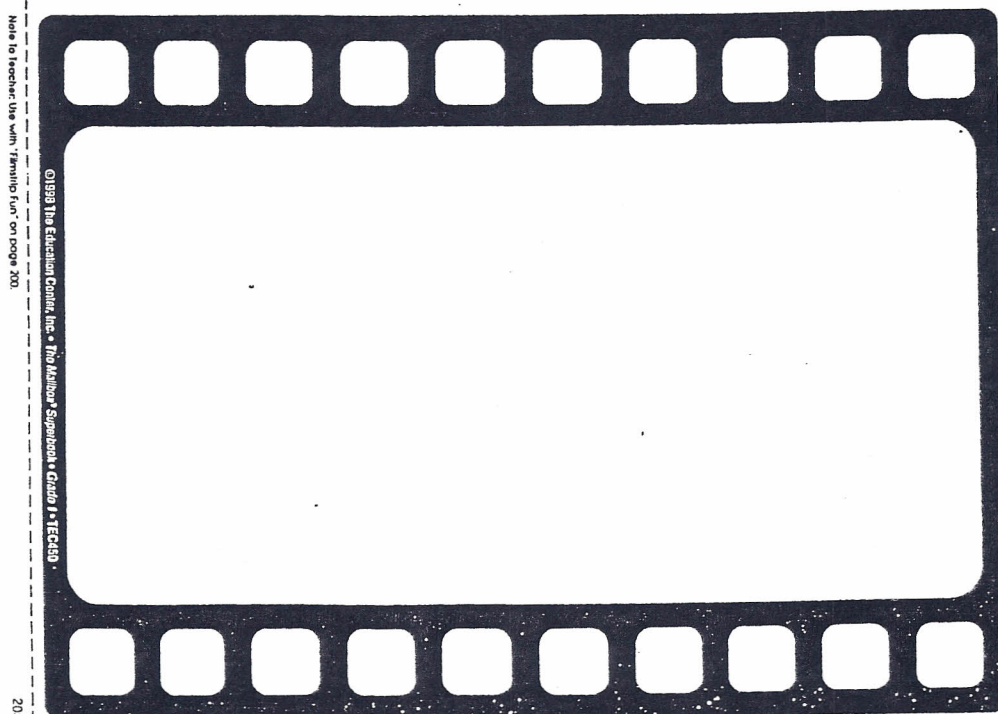


## Where Does Milk Come From?

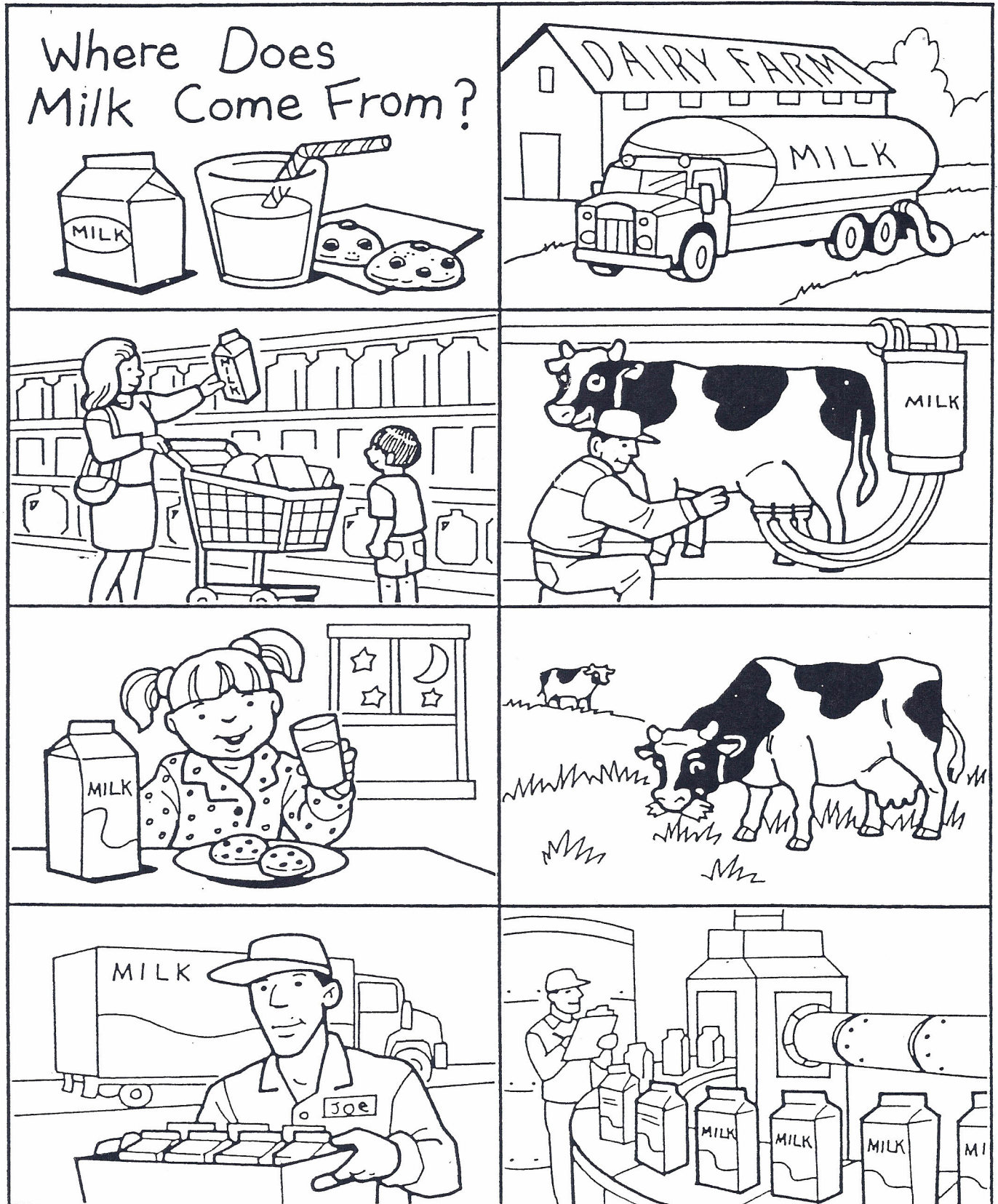
Read books that explain where milk comes from, such as *Milk: From Cow to Carton* by Aliki and *Milk* by Donald Carrick. Distribute photocopies of the Where Does Milk Come From? and have students cut cards apart and place in the correct order. To help the students you may want to write the following sentences on the chalkboard:

1. Cows eat grass and hay.
2. They are milked by machines.
3. The milk is loaded onto trucks.
4. The processing plant puts the milk into cartons.
5. The milk is delivered to the stores.
6. Shoppers by the milk.
7. Milk taste good!

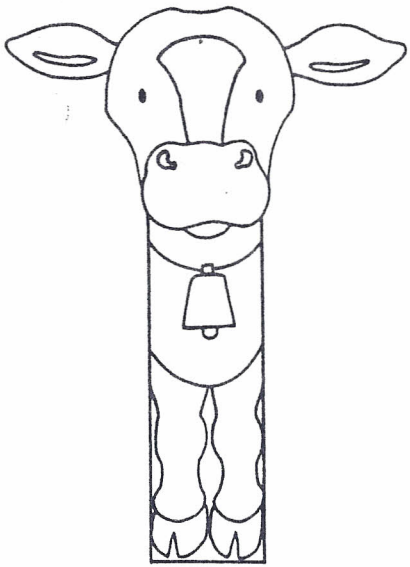
Ask students to cut the cards apart to place them in the correct order. Placing the picture cards on adding machine tape, the students will have a small film strip to tell the process.



# Where Does Milk Come From?

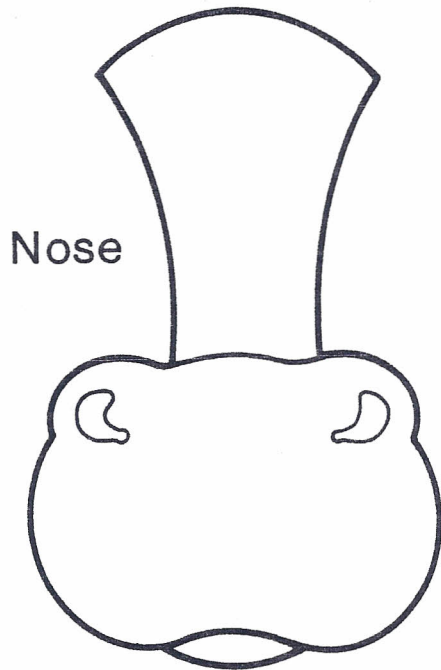


# Cow Bookmark

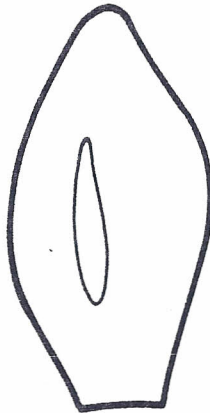


## Follow these directions:

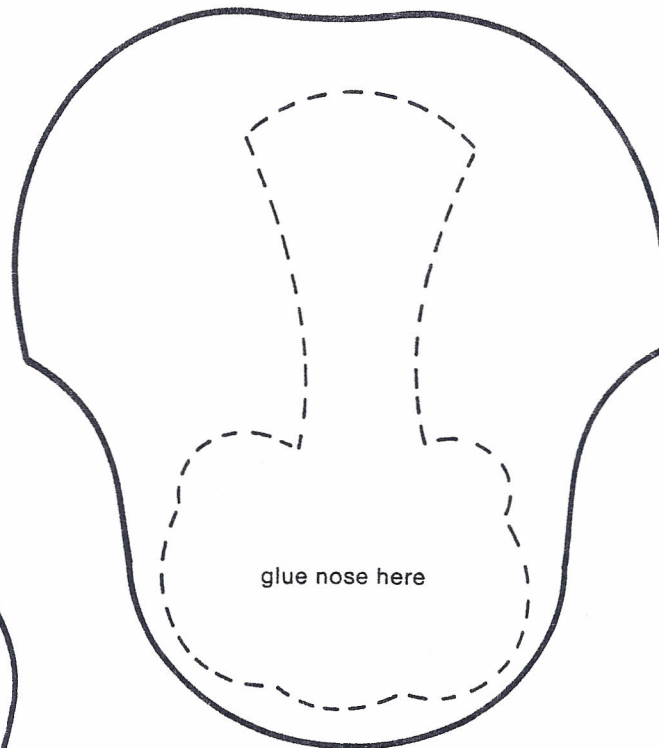
1. Draw two eyes on the head.
2. Color all the pieces.
3. Cut out the pieces.
4. Glue the nose to the head.
5. Glue the ears behind the head.
6. Glue the head to the bookmark body.



Nose

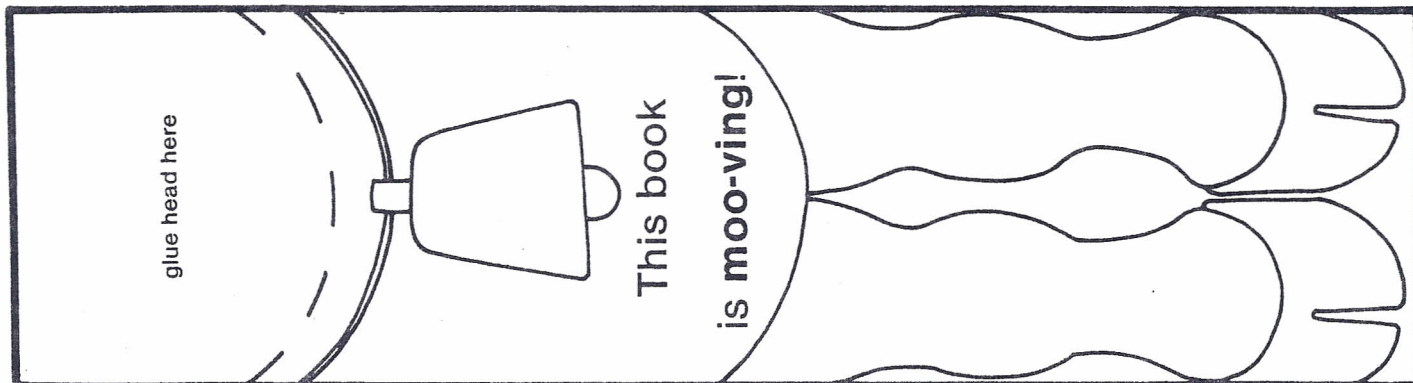


Ears



glue nose here

Head



glue head here

This book

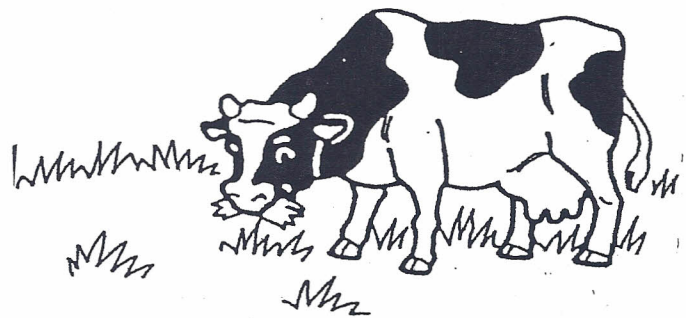
is moo-ving!

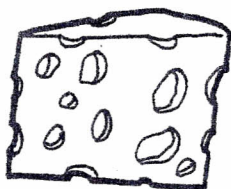
Bookmark Body

Cows are amazing animals and are full of surprises. A well fed cow will eat about 90 pounds of hay, grain and green grass daily. All that eating takes more than six hours, and a cow has the benefit of four stomachs to help with the digestion of all that food. Read aloud *The Milk Makers* by Gail Gibbons. Its description of the cow's digestive process is sure to amaze your students! A fun activity to follow up with is making a cow. With the pattern below cut on the fold using white construction paper. After cutting, add black spots (lesson on symmetry can be included) black yarn for the cow's bangs, add wiggly eyes and draw nostrils. Add green shredded paper for grass or natural shredded paper for hay at the cow's mouth.

Place on fold.

### The Amazing Grazing Cow





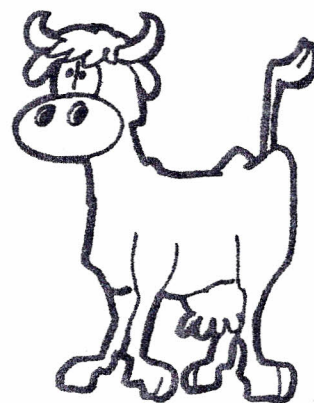
## Dairy Farming

A	H	C	D	T	A	N	K	T	R	U	C	K	M
C	O	W	S	A	L	V	A	D	W	F	B	G	I
E	L	F	D	X	K	H	I	G	R	A	S	S	L
G	S	H	F	A	R	M	E	R	E	B	N	A	K
I	T	J	G	O	L	R	A	Z	L	X	N	C	I
K	E	L	J	E	R	S	E	Y	N	F	D	A	N
M	I	N	S	P	E	C	T	O	R	D	Y	D	G
O	N	P	G	E	P	L	P	O	H	W	A	F	M
U	I	F	M	I	L	K	A	R	J	A	S	K	A
T	L	G	Z	C	O	A	R	U	M	S	V	N	C
W	C	K	A	P	E	L	L	X	O	H	I	A	H
H	A	Y	D	R	B	C	O	W	S	P	C	E	I
A	L	O	F	S	D	G	R	A	I	N	B	C	N
C	F	O	H	U	F	H	J	A	K	O	Z	R	E

All of these words are in the puzzle above. How many can you find?

COWS  
JERSEY  
HOLSTEIN  
CALF  
MILK  
HAY  
GRASS

TANK TRUCK  
MILKING MACHINE  
PARLOR  
WASH  
FARMER  
GRAIN  
INSPECTOR



# Milk And More From Dairy Farms

As you read the story, choose words from the list to complete the blanks. Then place them in the appropriate spaces for the crossword puzzle.



cream  
yogurt  
water  
drink  
cottage cheese

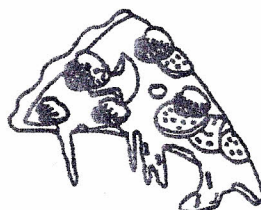
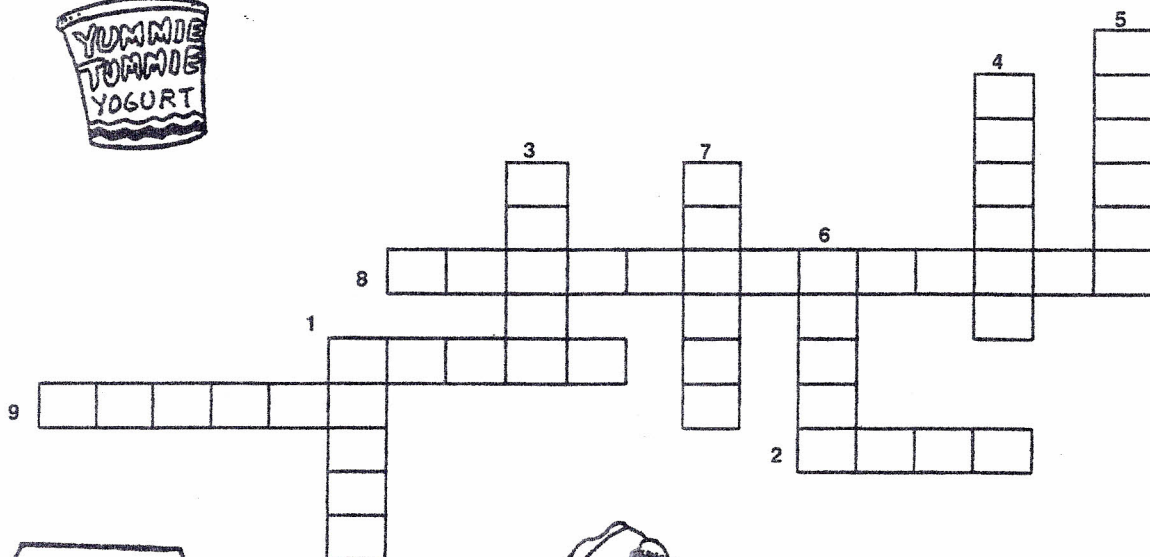
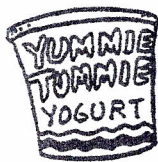
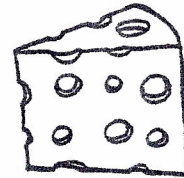
dairy  
milk  
silage  
washed  
butter



The 1) d \_\_\_\_\_ cow is important to farmers who market 2) m \_\_\_\_\_. The farmer has to see that cows have good care. He makes sure they have plenty of fresh 3) w \_\_\_\_\_, grain, hay, 5) s \_\_\_\_\_, and supplement in order to produce the most and best milk. A cow may 1) d \_\_\_\_\_ 20 to 30 gallons of water per day.

A cow is milked each morning and evening. Her udder is 4) w \_\_\_\_\_ before the milking machine is put on. From the milker, the milk goes to the cooler for pickup by a tank truck.

Some of the good food we get from milk are 6) c \_\_\_\_\_ 7) y \_\_\_\_\_  
8) c \_\_\_\_\_ and 9) b \_\_\_\_\_.

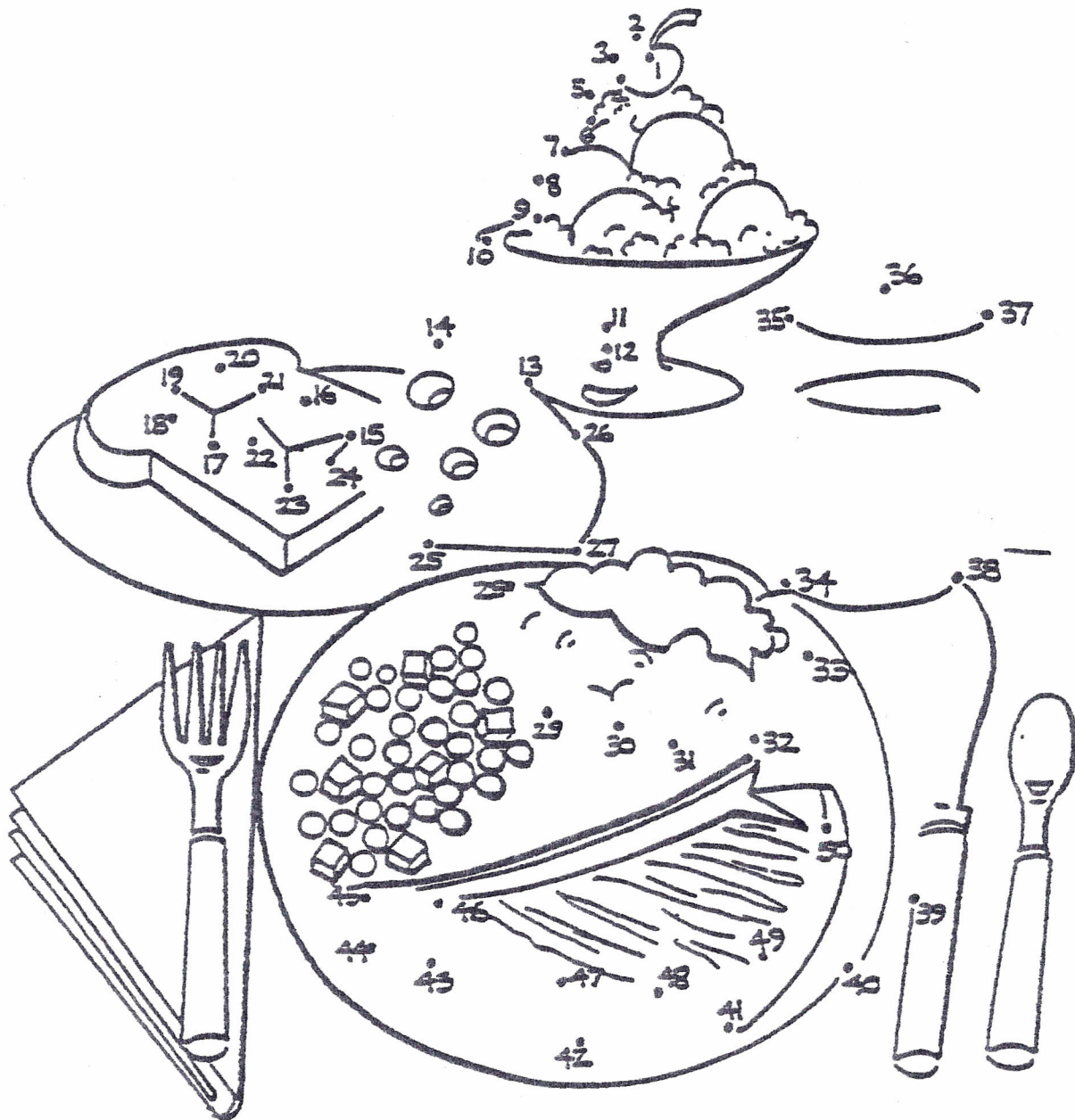


# Marvelous Milk

Name: \_\_\_\_\_



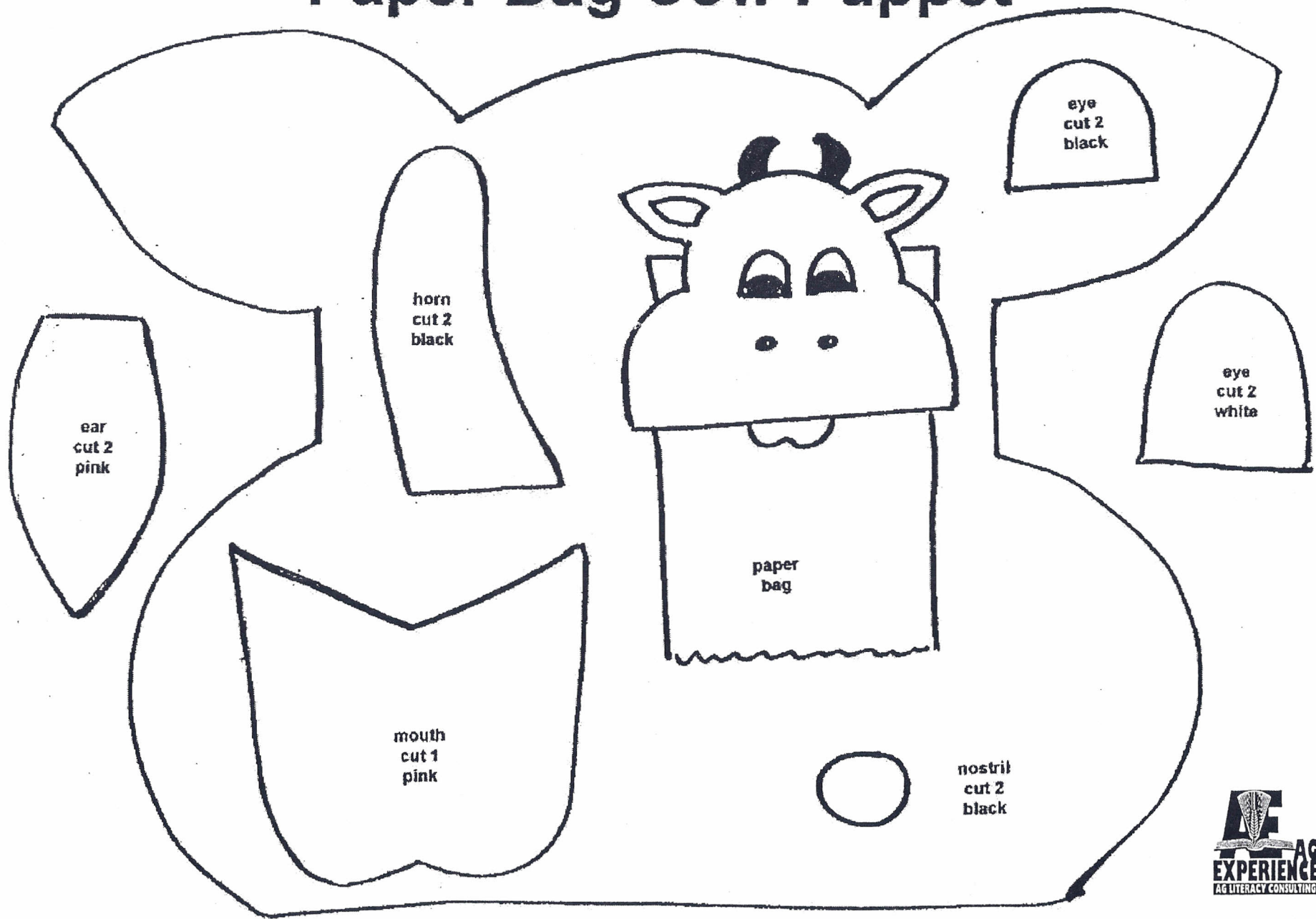
Many important foods come from Dairy Farms and are part of each meal. Follow the dots next to the numbers to see what this meal looks like. Color the parts of the meal that are dairy food.

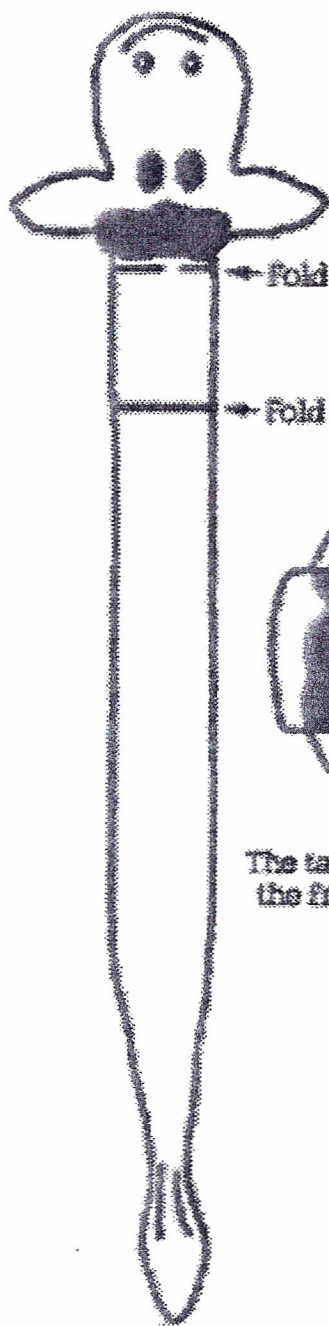


How many dairy products are there? \_\_\_\_\_

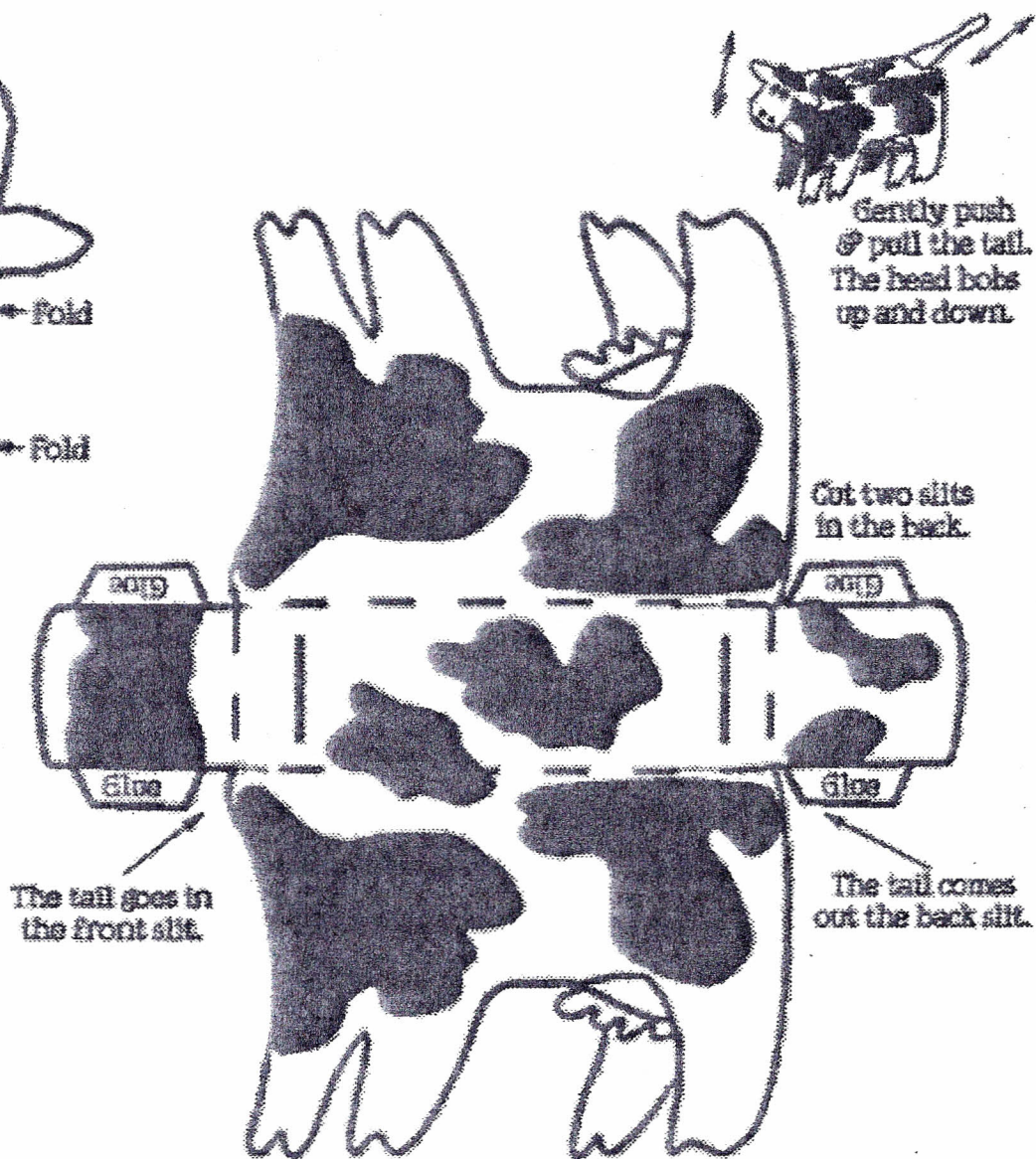
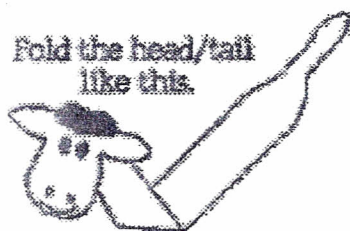
On the back of this paper draw other dairy products you like to eat.

# Paper Bag Cow Puppet





Fold the head/tail like this.



Gently push & pull the tail. The head bobs up and down.

Cut two slits in the back.

The tail goes in the front slit.

The tail comes out the back slit.

### Instructions:

1. Cut out the cow's head and body.
2. Cut two slits in the back of the cow's body.
3. Fold down the sides, front and back of the cow's body.
4. Glue the tabs into place inside the body.
5. Fold the head/tail section as shown.
6. Put the tail into the slit nearest the front of the cow and back out at the slit nearest the back of the cow. For reference, the udder is toward the back of the cow.
7. Gently push and pull the cow's tail, observe the realistic head bobbing action.

Narrator 1: **CLICK, CLACK, MOO COWS THAT TYPE**

By Doreen Cronin

Characters:

Narrator 1      Narrator 2  
Narrator 3      Narrator 4  
Narrator 5      The Cows  
Farmer Brown

Narrator 2: Farmer Brown has a problem. His cows like to type. All day long he hears:

Narrator 3: Click, clack, moo. Click, clack, moo. Clickety, clack, moo.

Narrator 4: At first he couldn't believe his ears. Cows that type! Impossible!

Narrator 5: Click, clack, moo. Click, clack, moo. Clickety, clack, moo.

Narrator 1: Then, he couldn't believe his eyes.

Cows: Dear Farmer Brown, The barn is very cold at night. We'd like some electric blankets. Sincerely, The Cows

Narrator 2: It was bad enough the cows had found the old typewriter in the barn, now they wanted electric blankets!

Farmer Brown: "No way! No electric blankets".

Narrator 3: said Farmer Brown. So the cows went on strike. They left a note on the barn door.

Cows: Sorry. We're closed. No milk today.

Farmer Brown: "No milk today"!

Narrator 4: cried Farmer Brown. In the background, he heard the cows busy at work.

Narrator 5: Click, clack, moo. Click, clack, moo. Clickety, clack, moo.

Narrator 1: The next day he got another note.

Cows: Dear Farmer Brown, The hens are cold too. They'd like electric blankets. Sincerely, The Cows

Narrator 2: The cows were growing impatient with Farmer Brown. They left a new note on the barn door.

Narrator 3: Closed. No milk. No eggs.

Farmer Brown: "No eggs!"

Narrator 4: cried Farmer Brown. In the background he heard them.

Narrator 5: Click, clack, moo. Click, clack, moo. Clickety, clack, moo.

Farmer Brown: "Cows that type. Hens on strike! Whoever heard of such a thing? How can I run a farm with no milk and no eggs!"

Narrator 1: cried Farmer Brown. He was furious! Farmer Brown got out his own typewriter.

Farmer Brown: Dear Cows and Hens, There will be no electric blankets. You are cows and hens. I demand milk and eggs. Sincerely, Farmer Brown

Narrator 2: Duck was a neutral party, so he brought the ultimatum to the cows.

Narrator 3: The cows held an emergency meeting. All the animals gathered around the barn to snoop, but none of them could understand Moo.

Narrator 4: All night long, Farmer Brown waited for an answer.

Narrator 5: Duck knocked on the door early the next morning. He handed Farmer Brown a note.

Cows: Dear Farmer Brown, We will exchange our typewriter for electric blankets. Leave them outside the barn door and we will send Duck over with the typewriter, Sincerely, The Cows

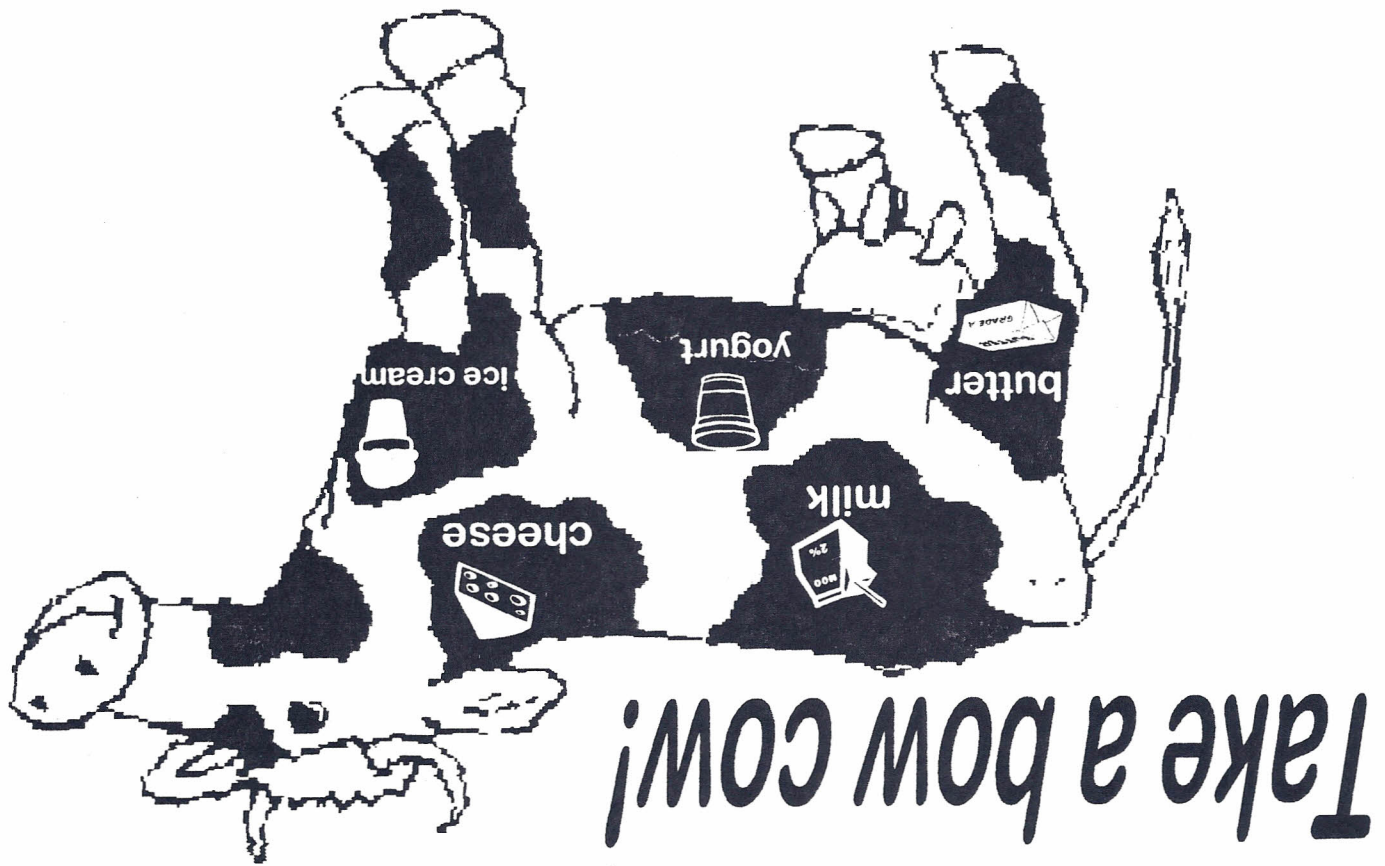
Narrator 1: Farmer Brown decided this was a good deal.

Narrator 2: He left the blankets next to the barn door and waited for Duck to come with the typewriter.

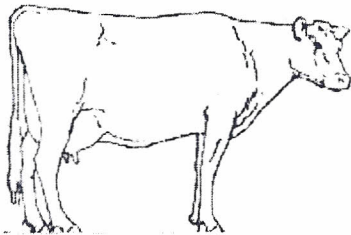
Narrator 3: The next morning he got a note.

Narrator 4: Dear Farmer Brown, The pond is quite boring. We'd like a diving board. Sincerely, The Ducks

Narrator 5: Click, clack, quack. Click, clack, quack. Clickety, clack, quack.

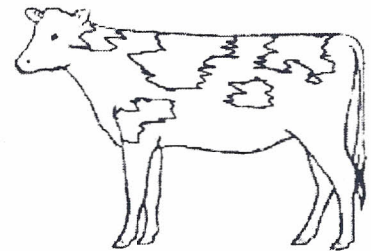


There are 5 Major Breeds of Dairy Cattle in the United States.

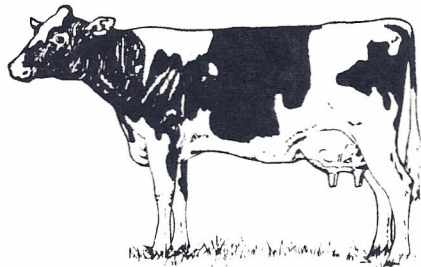


**Jersey**  
(Brown or Fawn)

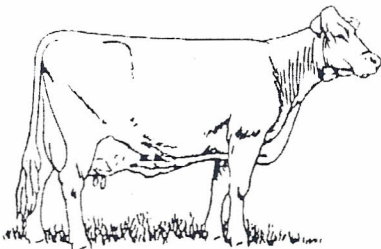
*Color the cows.*



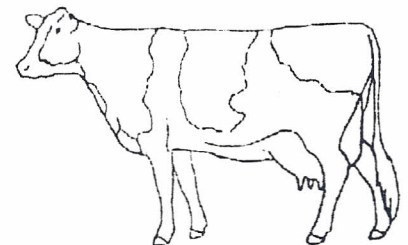
**Ayreshire**  
(Red & White)



**Holstein**  
(Black & White)

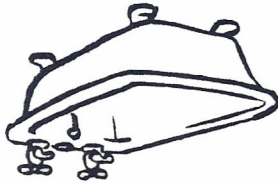


**Brown Swiss**  
(Brown or Gray)



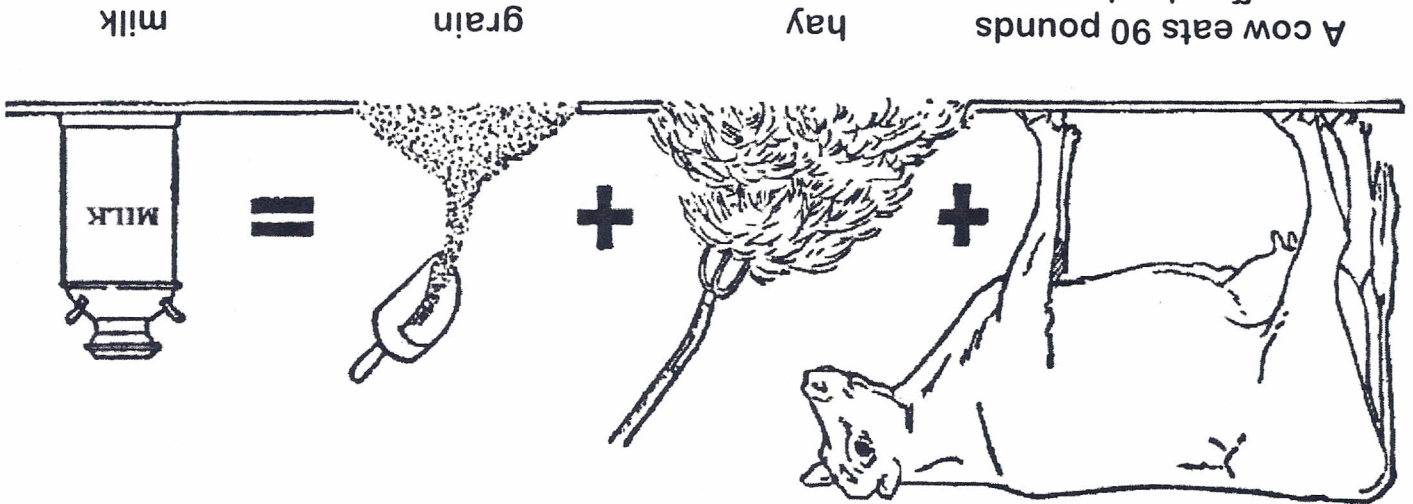
**Guernsey**  
(Orange & White)

How many glasses of milk did you drink yesterday? \_\_\_\_\_

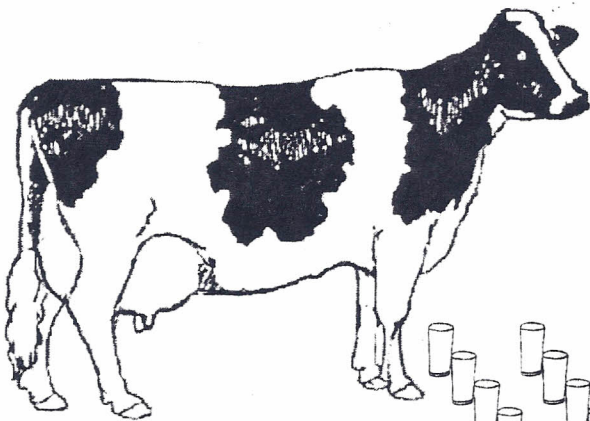


A cow will drink 40 to 60 gallons of water each day. That's a bathtub full.

A cow eats 90 pounds of food a day.

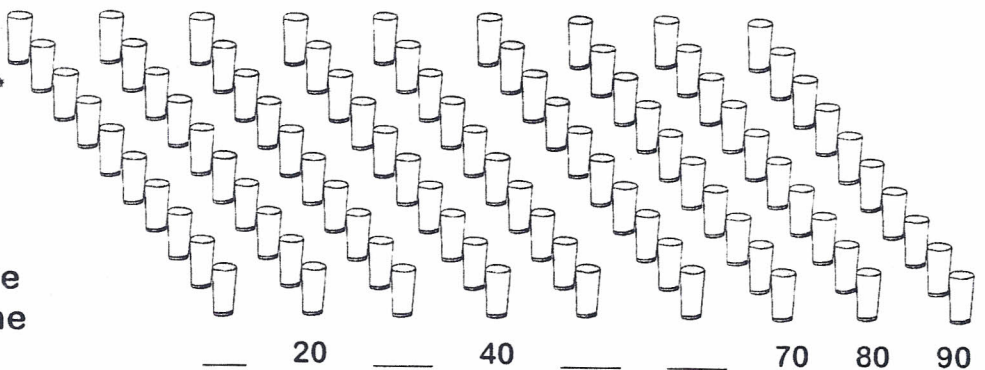


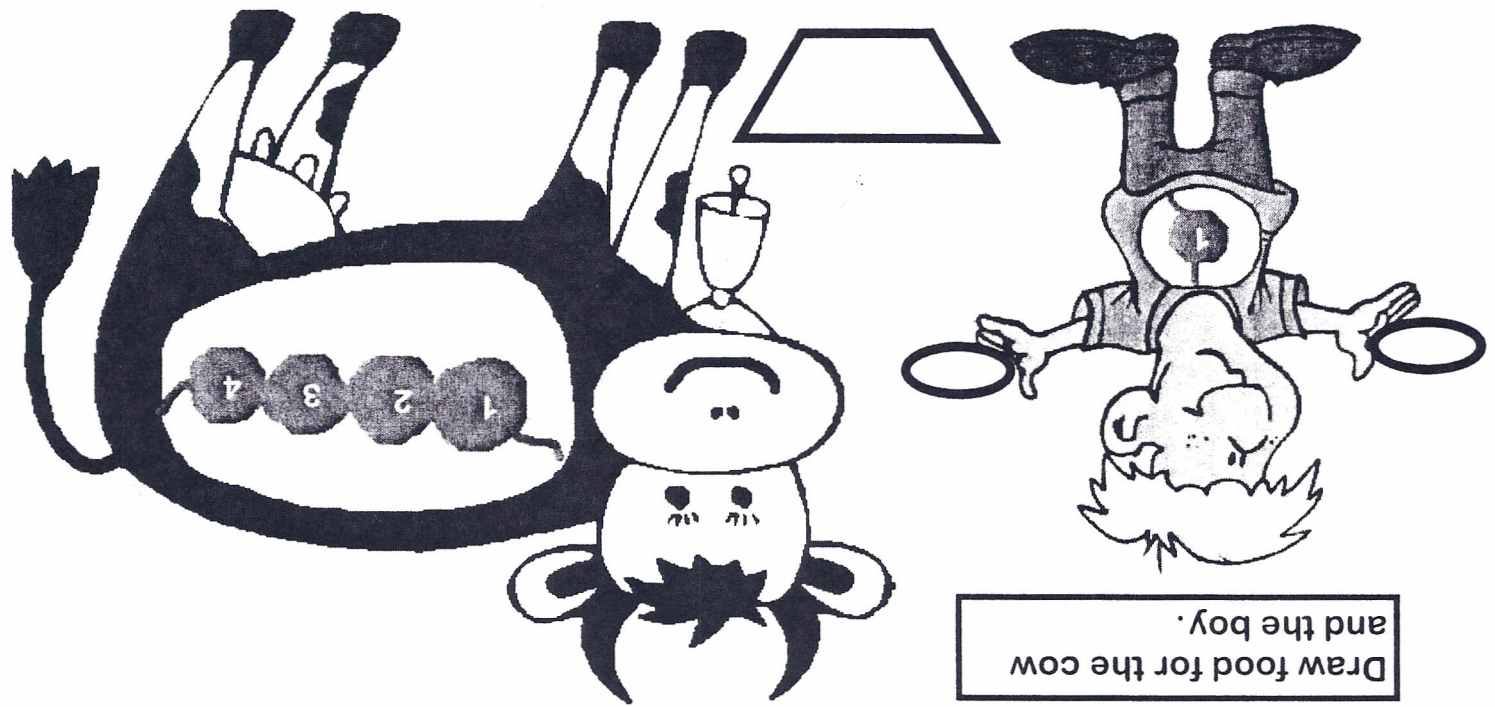
A cow produces about 90 classes of milk a day.



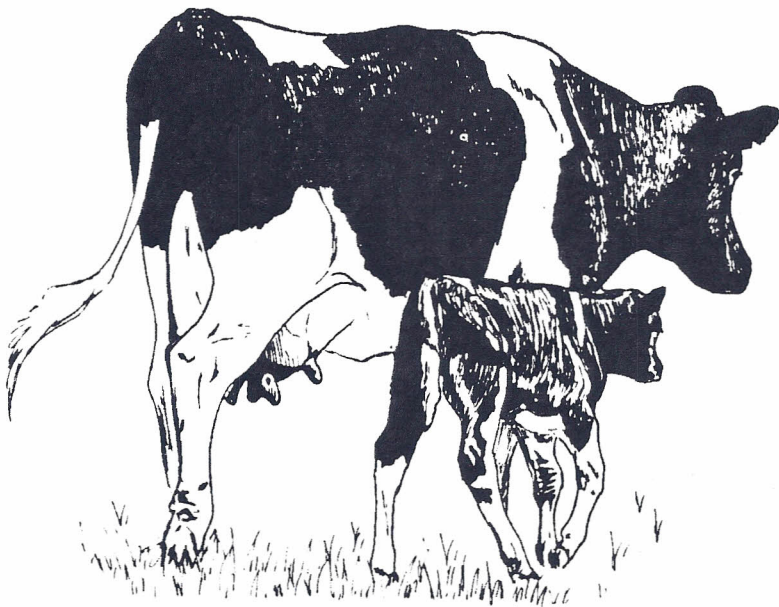
How many classes of milk do you drink each day? \_\_\_\_\_

The glasses of milk are in rows of 10. Fill in the missing numbers.





People have 1 stomach. Cows, sheep and goats have 4 stomachs. Animals with 4 stomachs are called ruminants. Because ruminant animals have 4 stomachs they can eat grass and hay that people can not digest.



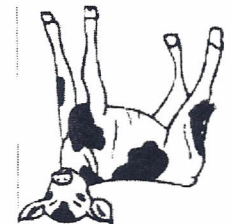
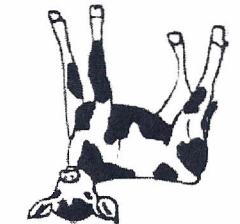
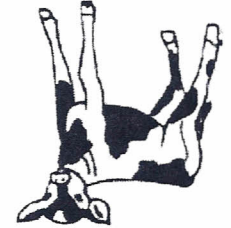
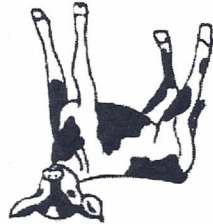
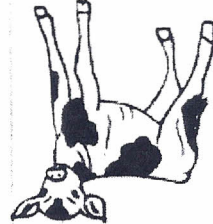
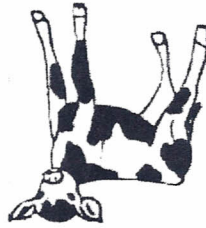
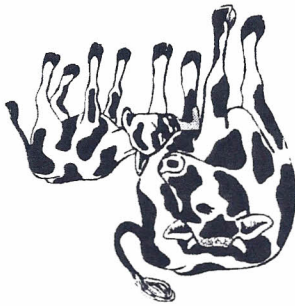
All **Cows** are mothers.  
We call their baby a **calf**.  
The father is called a **bull**.

A boy calf is called a **bull calf**.  
A girl calf is called a **heifer**.

A cow must be a mother and  
have a calf each year to  
produce milk.

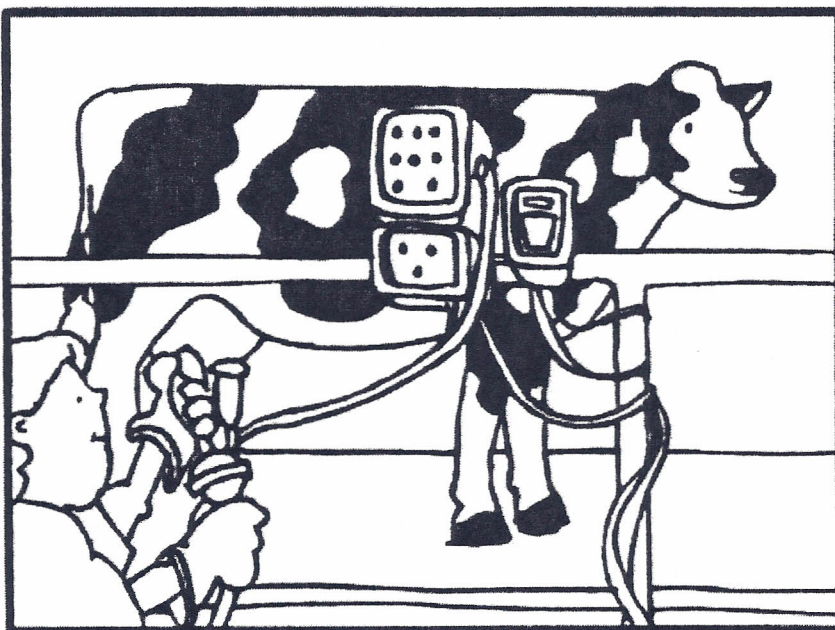
Color the grass green.

Baby calves look a lot alike, so the day a calf is born it gets an ear tag with a number to identify it. The babies also get vaccinations to keep them healthy, just like people do.



Match the twins.

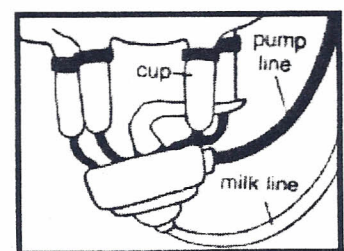
# Milking Time



Today most farmers use milking machines. The cows are milked two times every day.

The milk machine pump sucks the milk through rubber-lined cups that fit over the cow's teats.

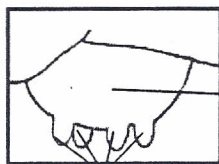
The action of the pump is like the sucking of a calf.



# Where is milk made?



A cow can be milked by hand. The milker holds a teat in each hand, and squeezes it with thumb and forefinger. Then he gently pulls his hand down the teat. The milk squirts out into a pail.



udder

teats

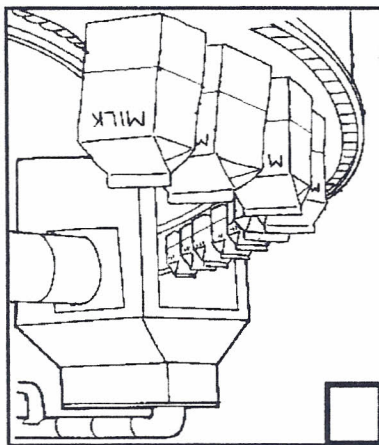
The food the cow eats is turned into nutrients. Some of the nutrients are turned into milk in the udder. The udder is the milk sack between the cow's back legs. The udder has 4 teats on the bottom where the milk comes out.

Number the pictures from first to last.

MILK FROM THE DAIRY TO YOU...

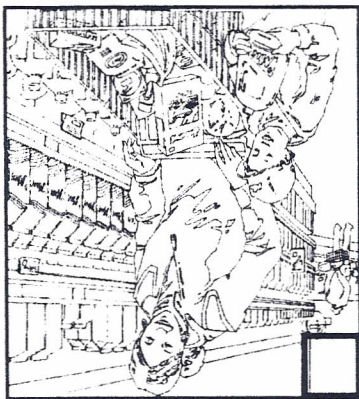
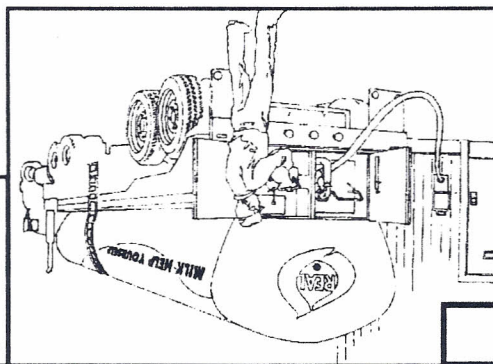
At the processing plant the milk is homogenized and pasturized. Then the milk is bottled or made into other dairy products.

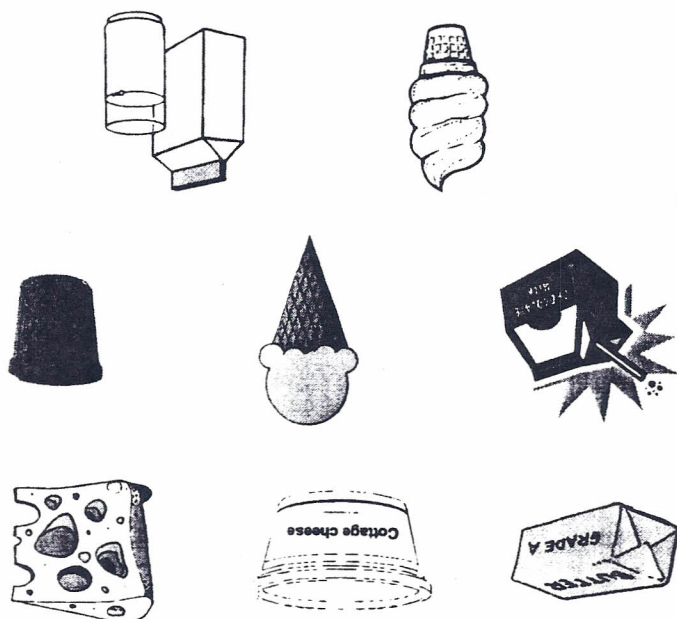
The processed milk is trucked to the stores for you to buy.



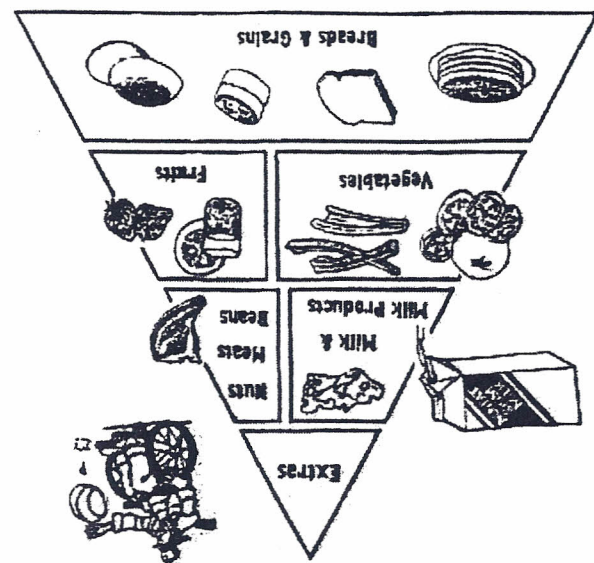
The milk from the cow is cooled in a large tank on the dairy. Then the milk is trucked to the milk processing plant.

Homogenize distributes the milk fat evenly throughout the milk.  
Pasteurize is heating the milk to destroy any bacteria.





Circle the dairy products you have eaten in the last week.



Milk and milk products are part of a GOOD diet.



### Make Miss Muffet's Curds and Whey

Miss Muffet was sitting on her tuffet eating her curds and whey. It was like cottage cheese, but wetter and more sour.

#### You will need:

- 2 cups of milk (nonfat if you are going to make glue).
- saucepan
- 3 tbsp of vinegar or lemon juice
- wooden spoon
- bowl

#### Procedure:

1. Pour the milk into the saucepan. Add the vinegar or lemon juice.
2. Heat the milk mixture on low heat, stirring slowly until the milk curdles (makes curds) - about eight minutes.
3. Remove the saucepan from the heat, but keep stirring until all the curdling stops. You will see solids (curds) and liquid (whey).
4. Put the mixture in a bowl and refrigerate. When the curds and whey are cool. They will be ready to eat. Taste them. Add salt or sugar if you like.

#### Why does it work?

When you add acid like vinegar or lemon juice to milk, you change the shape of the casein. In its changed shape the casein clumps together (coagulates). To form the solid curds. Heat helps separate the curds from the liquid (whey). Another ingredient that makes milk coagulate is an enzyme called rennet which is used in making hard cheese. The curds contain fat if nonfat milk is used, casein protein and vitamin A. They Whey is 93% water.



## Let's Make Butter

First you take the cow and you milk her, milk her.

Then you take the milk and you skim it, skim it.

Then you take the cream and you shake it, shake it.

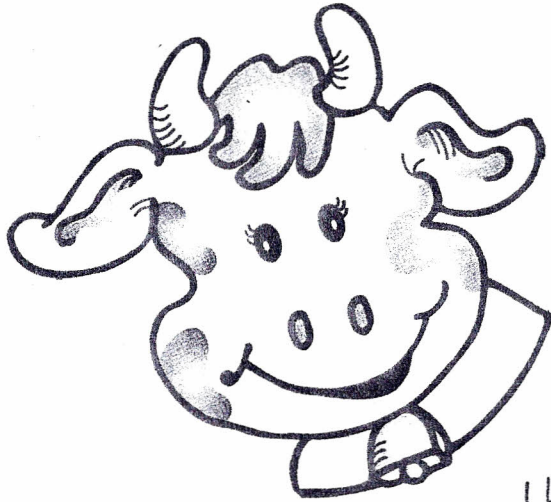
Then you take the butter and you drain it, drain it.

Then you take the butter and you spread it, spread it.

Then you take the cracker and you eat it, eat it.



## All I Need To Know About Life



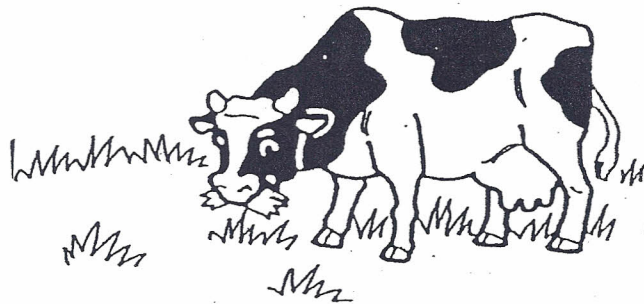
### I Learned From a Cow

- Wake up in a happy moo-o-d.
- Don't cry over spilled milk.
- When chewing your cud, remember...There is no fat, no calories, no cholesterol and no taste!
- The grass is greener on the other side of the fence. Turn the udder cheek and moo-o-ve on.
- Seize every opportunity and milk it for all it's worth!
- It's better to be seen and not herd.
- Honor thy fodder and thy mother and all your udder relatives.
- Never take any bull from anybody.
- Always let them know who's bossy!
- Stepping on cow pies brings good luck.
- Black and white is always an appropriate fashion statement.
- Don't forget to cow-nt your blessings every day.

Cows are amazing animals and are full of surprises. A well fed cow will eat about 90 pounds of hay, grain and green grass daily. All that eating takes more than six hours, and a cow has the benefit of four stomachs to help with the digestion of all that food. Read aloud *The Milk Makers* by Gail Gibbons. Its description of the cow's digestive process is sure to amaze your students! A fun activity to follow up with is making a cow. With the pattern below cut on the fold using white construction paper. After cutting, add black spots (lesson on symmetry can be included) black yarn for the cow's bangs, add wiggly eyes and draw nostrils. Add green shredded paper for grass or natural shredded paper for hay at the cow's mouth.

Place on fold.

### The Amazing Grazing Cow



## Alabama Course of Study

### Dairy Unit

#### Language Arts

Kindergarten - 3, 4, 5, 6, 8, 10, 11

Grade 1 - 1, 4, 5, 6, 8, 9, 10, 12, 13, 14, 15, 17, 18, 24

Grade 2 - 1, 4, 5, 6, 7, 9, 11, 16, 23

Grade 3 - 3, 4, 8, 9, 10, 12

Grade 4 - 3, 4, 5, 7, 9

Grade 5 - 1, 2, 3, 7, 11, 13

Grade 6 - 1, 3, 6, 8, 9, 13, 17

#### Science

Kindergarten - 3, 6, 7

Grade 1 - 1, 4

Grade 2 - 6

Grade 3 - 13

Grade 4 - 5

Grade 5 - 3, 8, 9

### Beef Unit

#### Language Arts

Kindergarten - 3, 4, 5, 6, 8, 10, 11

Grade 1 - 1, 5, 6, 8, 9, 10, 12, 13, 17, 18, 24

Grade 2 - 1, 4, 5, 6, 7, 9, 11, 14, 16, 23

Grade 3 - 3, 4, 9, 10, 12

Grade 4 - 3, 4, 9, 12, 14

Grade 5 - 1, 2, 4, 11, 13

Grade 6 - 1, 3, 6, 13

#### Science

Kindergarten - 3, 6, 7

Grade 1 - 1, 4

Grade 2 - 6

Grade 3 - 13

Grade 4 - 5

Grade 5 - 8, 9

Resources used in creating units used for Alabama AITC Summer Institute 2009:

Oklahoma AITC, Montana AITC, Kids Pumpkin Projects by Deanna F. Cook, Connecticut AITC, Florida AITC, Illinois AITC, Ag Experience and Xris Blonk

- What did the beaver say to the tree? *It's been nice gnawing you*
- What bird is always sad? *The blue jay*
- How do you catch a squirrel? *Climb the tree and act like a nut*
- Why do hummingbirds hum? *Because they forgot the words*
- What did the tree wear to the pool party? *Swimming trunks*
- Why do birds fly south for the winter? *Because it's too far to walk*
- How do trees get on the internet? *They "log" on*
- How do you make an egg roll? *Push it*
- Why should you never tell a secret in a garden? *Because beans talk*
- What is the most tired fruit? *The beet*
- What kind of jokes do vegetables like best? *Corny ones*
- What kind of tables do people eat? *Vegetables*
- What did the carrot say to the wheat? *Lettuce rest I'm feeling beet*
- What do you call a dinner made up of corn products? *A corn meal*
- What does the letter "A" have in common with a flower? *They both have bees coming after them*
- What kind of socks does a gardener wear? *Garden hose*
- What do you call a girl with a frog in her hair? *Lily*
- What tree do you like when you're hungry? *The "pan-tree"*
- What does everyone have on their face? *Tulips*
- What gets bigger the more you take away? *A hole*
- What bee is good for your health? *Vitamin bee*
- What did the mommy seed say to the baby seed? *Where are you growing?*
- How long do chickens work? *Around the cluck*
- What do you get when a chicken lays an egg on top of a barn? *An egg roll*
- What kind of egg lives by the sea? *An egg shell*
- Why did the chicken cross the road? *Because the rooster egged her on*
- What do you call an egg that goes on a safari? *An eggs-plorer*
- How does the chicken fit its shell? *Eggs-actly*

- How do you cook an egg on a summer's day? *Sunny side up*
- Did you hear the one about the egg? *It's not all it's cracked up to be*
- What do chickens grow on? *Eggplants*
- How do you make milk shake? *Give the cow a good scare*
- What gives milk and has one horn? *A milk truck*
- Why shouldn't you cry over split milk? *It makes it taste salty*
- Why did the farmer bring the cow to the vet? *Because she was "moo-dy"*
- What does the Invisible Man drink? *Evaporated milk*
- What do you get when you cross an octopus with a cow? *An animal that can milk itself*
- When is it polite to serve milk in a saucer? *When you're feeding the cat*
- What do you call the person who drives the ice cream truck? *A "sundae" driver*
- What do you call the boss at the dairy farm? *The big cheese*
- What's another name for a cowhand? *Hamburger Helper*
- What do you call it when one bull spies on another bull? *A Steak Out*
- What do you call a sleeping bull? *A Bull dozer*
- Where do steers go to dance? *To the Meat ball*
- Why can't you tell a pig a secret? *They are all squealers*
- What is the best way to ride a pig? *Piggy-back*
- What do you give a sick pig? *Oinkment*
- Why did the pig go to the casino? *To play the slop machine*
- How do you take a pig to the hospital? *By hambulance*
- What do you call a pig that is a thief? *A hambugular*
- Where do pigs go for vacations? *To the tropigs.*
- What kind of book is about a famous pig? *A bihography*
- What would call a beauty contest for pigs? *The Miss Hamerica contest*
- Why did the pig get a traffic ticket? *He didn't see the No Porking sign*
- What do you call a karate move made by a pig? *A pork chop*