

TEACHER MATERIALS - Butter

CONCEPTS:

ELA

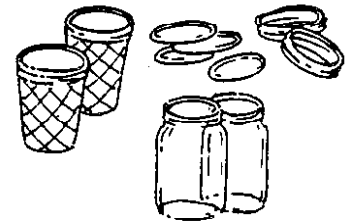
-Standard 1.1- Listening and Reading

Career Development

-Standard 3a.1- Basic Skills

Social Studies

-Standard 4.1- Economics



OBJECTIVE: The students will make butter, taste it and gain an appreciation for the amount of manual labor spent in the past to produce this food.

BACKGROUND: Pioneers separated cream from their milk and churned it into butter. Many devices were created to speed up this process. Often while settlers moved across the country, the swaying motion of the wagon all day long would be sufficient to produce butter. Dairy products would be kept fresh in a cold spring or "springhouse." A good time to complete this lesson is around holiday periods when heavy cream will be in the store.

- ACTIVITY:**
1. Have the student read the story "Butter" or read it to them.
 2. Have the students make the cow puppet following the directions given (used with permission from Ag in

Montana Schools).

3. Copy the cow onto construction paper using a ditto machine or photocopier. Have the students cut them out and assemble them.
4. Make butter (see directions).

Information - Butter

Butter was probably first churned by accident. Some rich milk was being held in an animal skin while being carried. When its owner tried to drink his/her milk, it was no longer milk. It had churned into butter. This occurred about 4,000 years ago and butter became an important food.

Butter has been used as a medicine, a hair dressing, an oil, a poultice to ease wrinkles, as money, an indicator of wealth, and as a means to "buy" a wife. It has been eaten alone, drunk in tea, spread on almost any other food, cooked with many foods and seasonings. It has been made out of almost every milk produced by mammals. Its value was recognized by the Pilgrims. The pilgrims stored several tubs aboard the Mayflower for their ocean voyage. Modern butter, despite its manufacturing by large machines and scientific methodology, has not really changed from its earliest days.

For years, butter production was an activity that took place in each home. Cream was churned to form butter lumps. As the butter became thicker, the liquid, buttermilk, was drawn off, the butter rinsed and removed. Churns began as animal skin pouches and evolved to earthenware crocks which were rocked, shaken, or swung. Later, the dasher, a wooden stick with a blunt end was used to churn butter in a wooden vessel shaped in a cone. Modern churns developed made of glass and metal.

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 milk with the highest in butterfat, then comes Guernsey, Ayreshire, Brown Swiss, and last is the Holstein. Holstein-Friesian cattle are the black and white breed most commonly found in the United States. Although they produce milk lowest in butterfat (3.0% - 3.5%), they produce the greatest quantity of milk. Therefore, Holsteins out number other dairy breeds almost to the point of exclusion.

Colloquial terms including butter are:

"buttering up"

"knowing which side your bread is buttered on"
"bread and butter letter" = thank you note
"to butter" - spread with

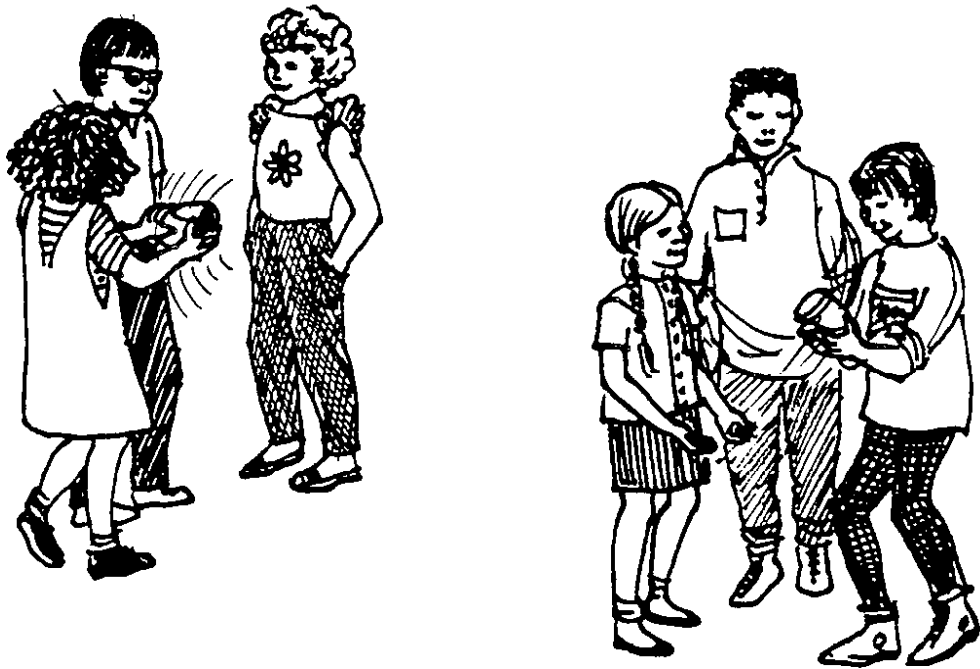
Butter is used to name characters in play, in comic strips, and to name a particular type of yellow.

Making Butter

MATERIALS: 4 half-pints of heavy whipping cream
4 small glass jars with lids
salt
crackers
knives
spoons
paper plates

- STEPS:**
1. Have the students brainstorm what products are made from milk. Make a list on the chalkboard.
 2. Discuss where milk comes from.
 3. Explain that in the past farmers would allow fresh milk to stand until the cream rose to the top. The cream would then be skimmed off to be made into butter. Today, this takes place in a milk processing plant. We can buy milk in many forms and products.
 4. Divide the children into 4 groups. Fill each jar half full with cream. Tighten the lid and give each group a jar. Have them "churn" the cream into butter by shaking the jar. As their arms tire, have them pass the jar to the next child.
 5. Depending upon the temperature of the cream (at room temperature 68°F), in about 5 minutes the children should be able to feel and see a difference as they shake the jar. The butter will float to the top as a yellow mass. Press out the buttermilk and drain it off. (Having the cream at cooler temperatures will take longer. At 50 to 60°F, it will take 10 to 15 minutes. At refrigerator temperature--32 to 34°F--it will take 30 minutes to churn cream into butter.)

6. Spoon the butter onto a plate. Have the students taste it. Add salt to taste, if desired.
7. Allow each student to taste a sample on crackers unless they have a food allergy to it or their religion prohibits it.
8. If old-fashioned churns are available, have the students examine them. A local historical society may be a good source.
9. Heavy cream is 44 percent butterfat. Light cream is 18 percent butterfat. Try both types to make butter and see how long it takes and how much butter each will yield.

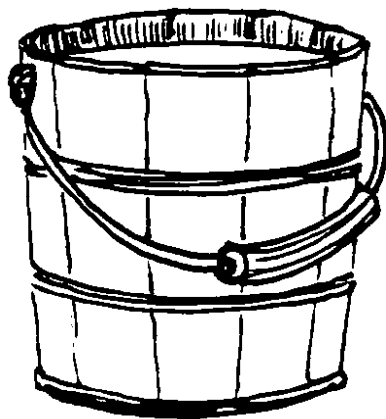


Butter

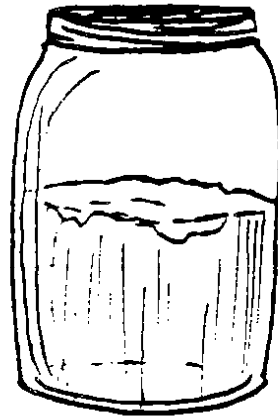
Butter is made from the cream in milk. The cream is lighter than the rest of the milk and it floats to the top. In the past after the cows were milked, the milk was put in a pan or jar and the cream floated to the top. Cream was skimmed off the top and churned into butter. What would happen if you let milk sit today? The milk bought in the store is homogenized. This means that the cream is mixed up so well that it won't float out.

Churns came in all shapes and sizes. This type is the most common. Churning was often the work of children. Many early machines were made to churn butter. Why? Because it was a lot of boring work.

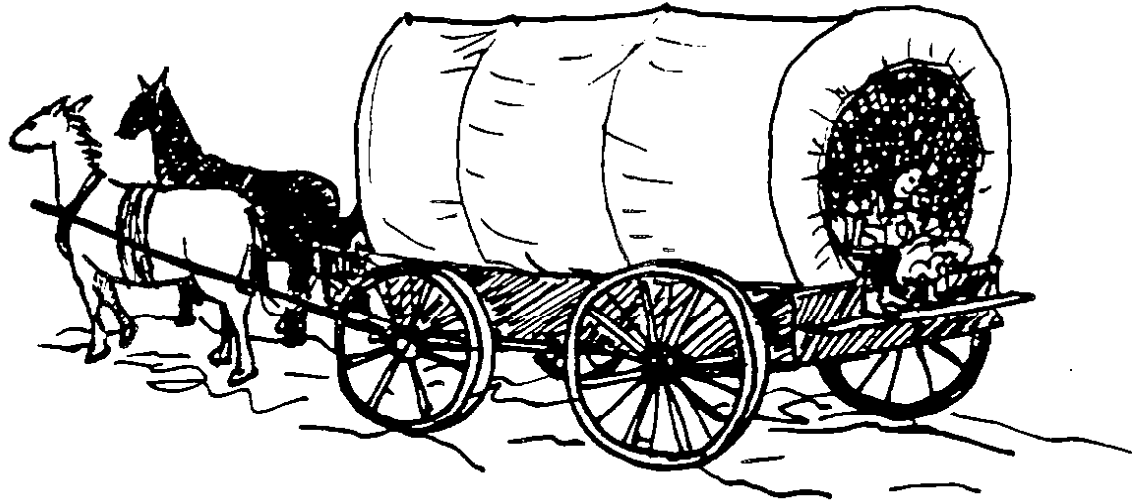
When the pioneers travelled across the country they often had a milk cow or two. The cow would be tied to the back of the wagon and walk along behind it. After they milked the cow at night, they



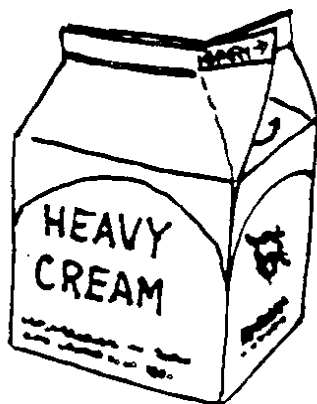
let the milk stand overnight to separate the cream. Then they would tie a sealed jar filled with cream into a sling. The sling was tied to the wagon top.



The sling could sway with the moving of the wagon top. By the time they stopped the wagon, they would have butter.



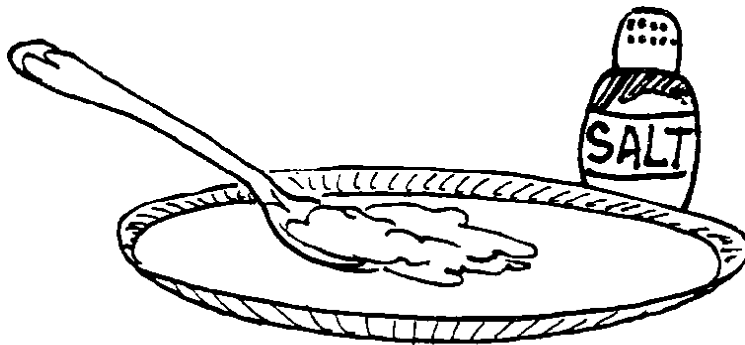
Butter can still be made by using heavy cream.



Place the cream in a jar and shake it until butter forms.

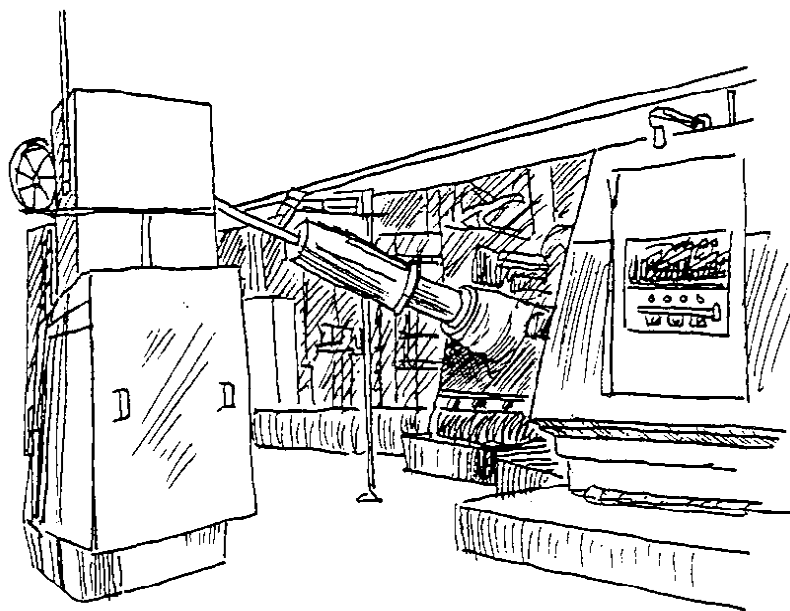


Drain off the buttermilk. Add a little salt.

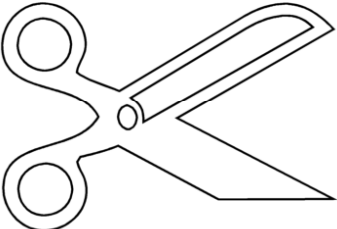


and taste it.

Today, butter is made in very large machines like this one.



Cut out your own cow!



Fold along dotted lines

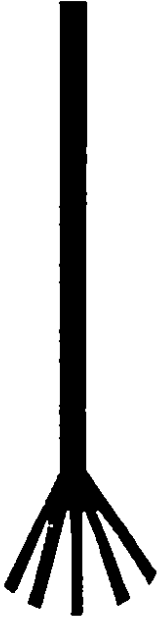
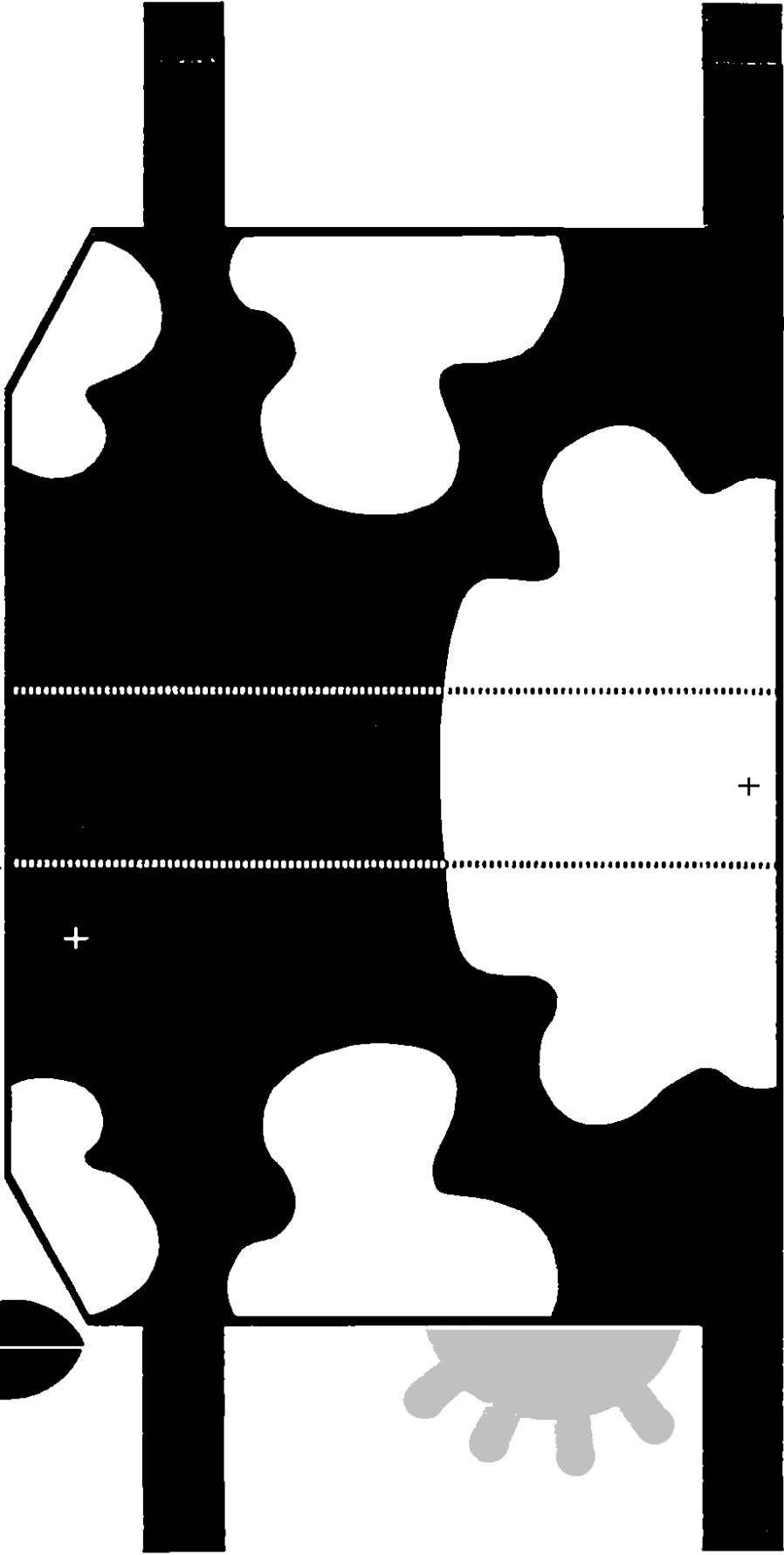
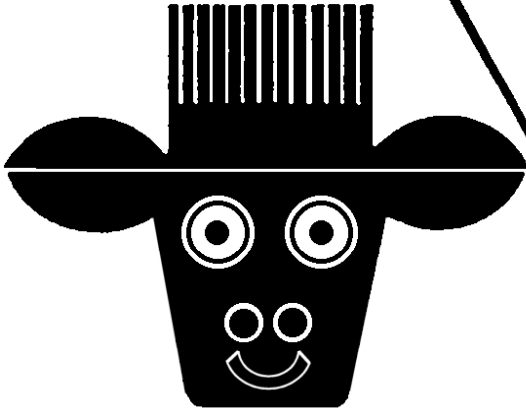


Attach tail here

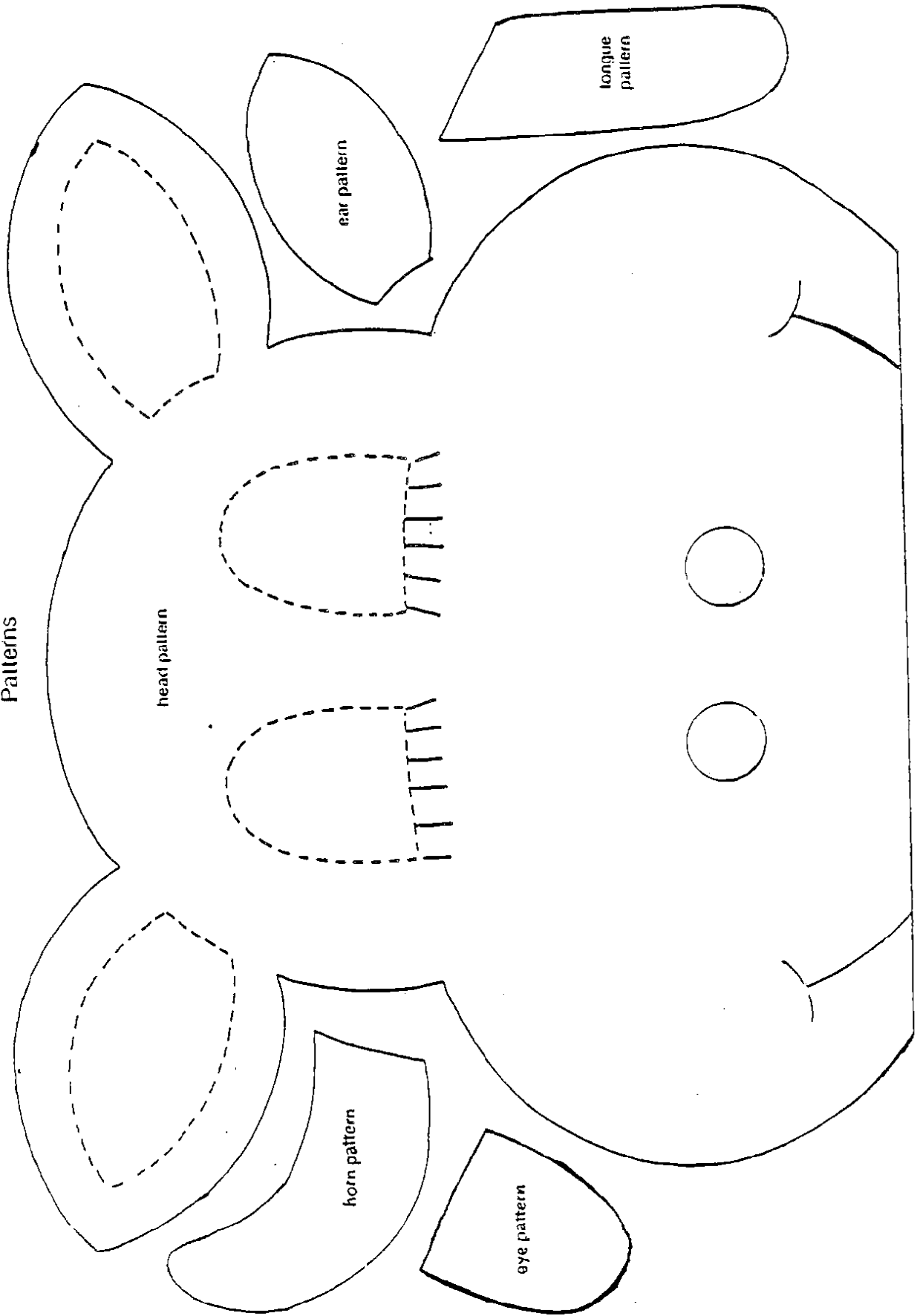


Attach head Here

Cut out and curl hair around a pencil



Patterns

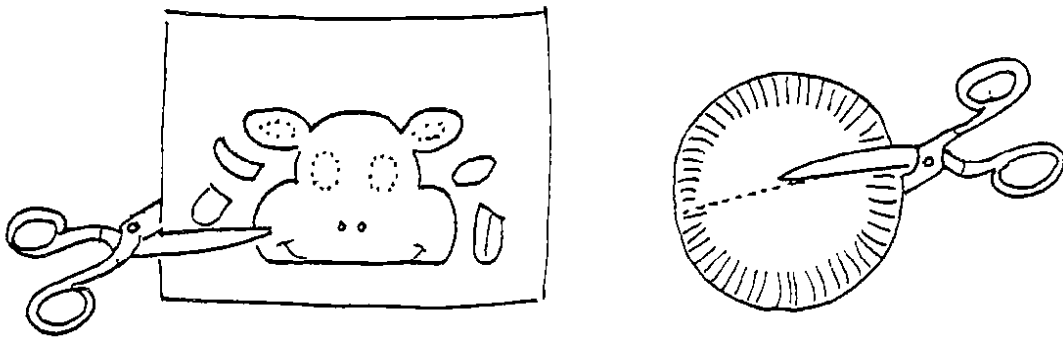


Delilah Cow

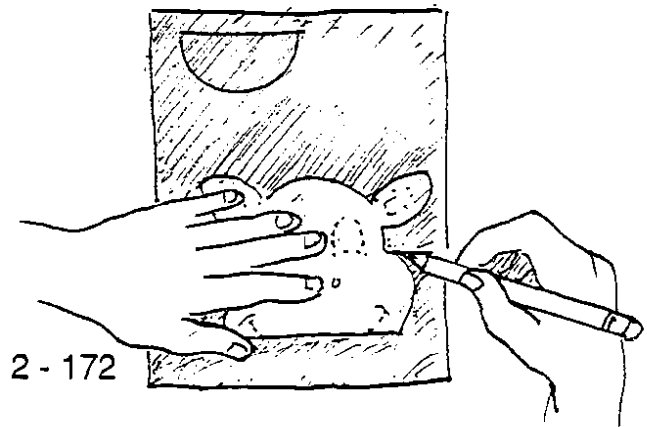
Bag Puppet

MATERIALS: cow patterns
scissors
oaktag - file folders
6" paper plate
brown, red, and white construction paper
brown or white paper lunch bags (one for each student)
paste
black marker

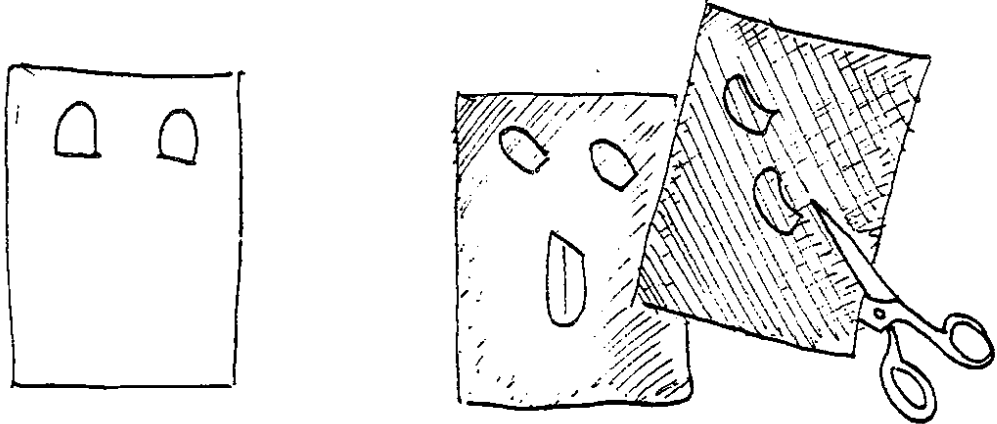
- STEPS:**
1. Reproduce the cow patterns on page 2-171. Paste onto oaktag and cut out. To make a pattern for the mouth, cut a 6" paper plate in half.



2. Have each student trace the head and mouth patterns onto brown construction paper and cut them out. Then trace the paper plate half onto white construction paper and cut out. Have students trim about 1/4" from the curve of the white half circle.

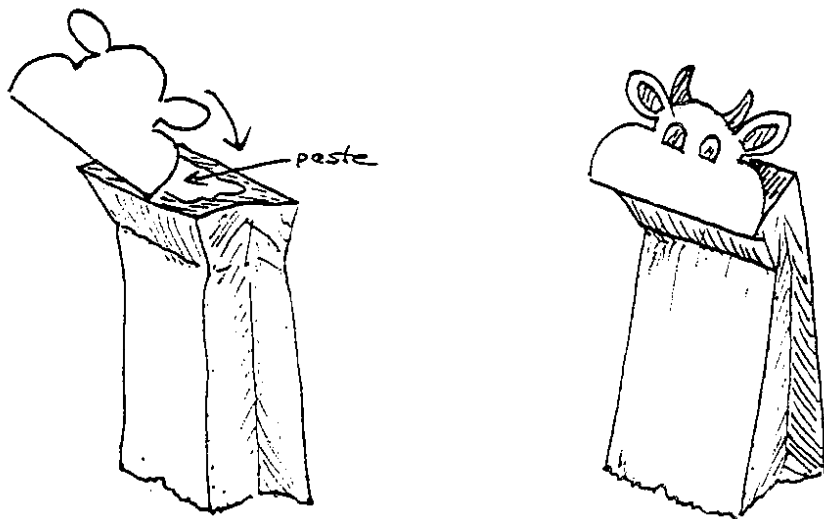


3. Students will trace the eye pattern two times onto white paper and cut out.

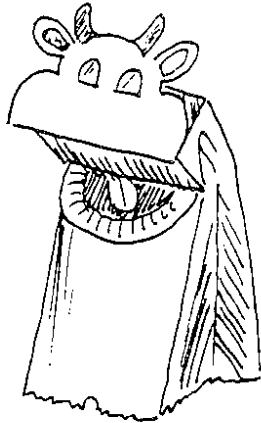


4. Have students trace the ear pattern two times and the tongue pattern once onto red construction paper and cut out.

5. Give each student a brown or white paper lunch bag. Students will paste the cow's face onto the bottom of the bag, as shown in the illustration. Then paste on the cow's eyes and ears.



6. Ask students to align the straight edges of the white and brown half circles and paste them together. This is the mouth. Then have students paste the mouth under the flap of the bag so that it overlaps with the cow's face when the flap is closed.
7. Students will paste the tongue onto the mouth, as shown.



8. With a black marker, have students draw eyelashes, a nose, and a smile on Delilah's face.
9. Use the puppets to put on a play, tell stories, etc.

