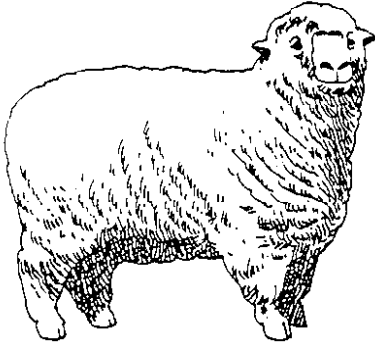


TEACHER MATERIALS - Sheep/Wool

CONCEPTS:



ELA

- Standard 1.1- Listening and Reading

- Standard 1.2- Speaking and Writing

Career Development

- Standard 3a.1- Basic Skills

Social Studies

- Standard 4.1- Economics



- OBJECTIVES:**
1. The students will be able to describe where wool comes from.
 2. The students will be able to "spin" fiber into yarn.
 3. The students will be able to recognize natural fiber vs. synthetic.

BACKGROUND: Sheep were one of the first animals to be domesticated by humans (more than 8,000 years ago). For centuries we have bred sheep for various qualities --

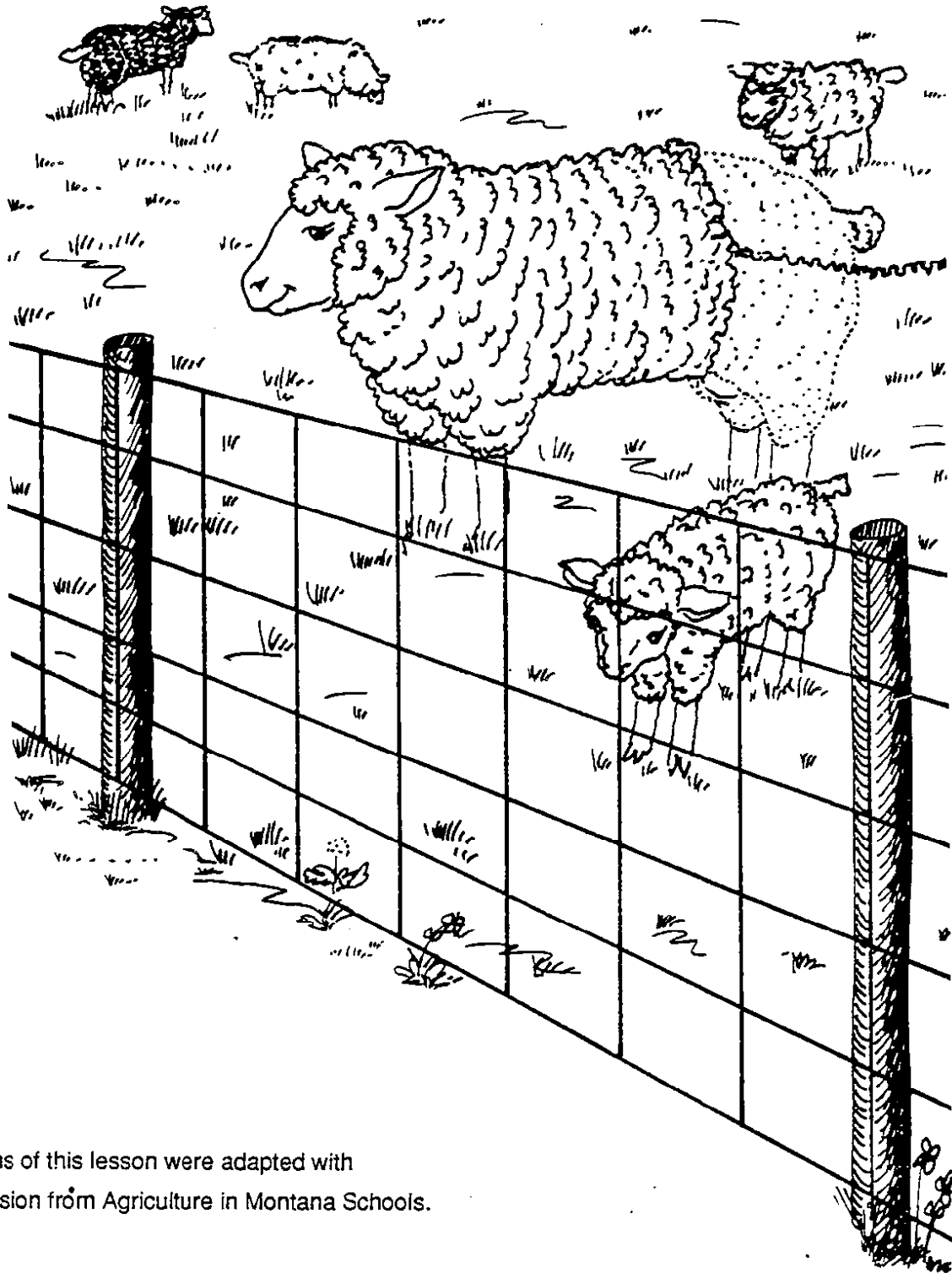


wool, docility, meat, reproductive capacity, flocking instinct, etc. Today, they do not even remotely resemble their wild ancestors. As a result, they have little or no defense capabilities and rely entirely on the care of humans to provide feed, water, shelter, and protection from predators.

Wool can be made from the coat fiber of many different animals: sheep, goats, llamas, alpacas, rabbits, and camels. Of course, in the United States the wool we use is made, almost entirely, from sheep. Many other types of fiber, both natural and synthetic, can be spun. The structure of the wool fiber makes it unique for strength, durability, fire resistance, and insulating properties.

- ACTIVITIES:**
1. Have the students read pages 25 to 32 in "The Source."
 2. Have the students complete the word scramble on page 33 in "The Source."
 3. Have the students make their own sheep puppets as per the directions.
 4. Have the students make a bulletin board of all the words/phrases/sayings they know about sheep and wool. Place each of these in one of the sheep as instructed in the vocabulary activity. As they learn new words and phrases, have them add these.
 5. Have the students spin their own wool in "Spinning." If real wool is available, it is preferred. If no wool is available, use cotton or cosmetic balls.
 6. Utilize "The Wool Kit" found in the Resource Guide or available through the New York Agriculture in the Classroom catalog.
 7. Discuss weaving vs. knitting.

8. Have the students weave their own cloth in "Weaving."
9. Read "Mary and Her Lamb" to the students and discuss the story.



Portions of this lesson were adapted with permission from Agriculture in Montana Schools.

Sheep - Additional Information

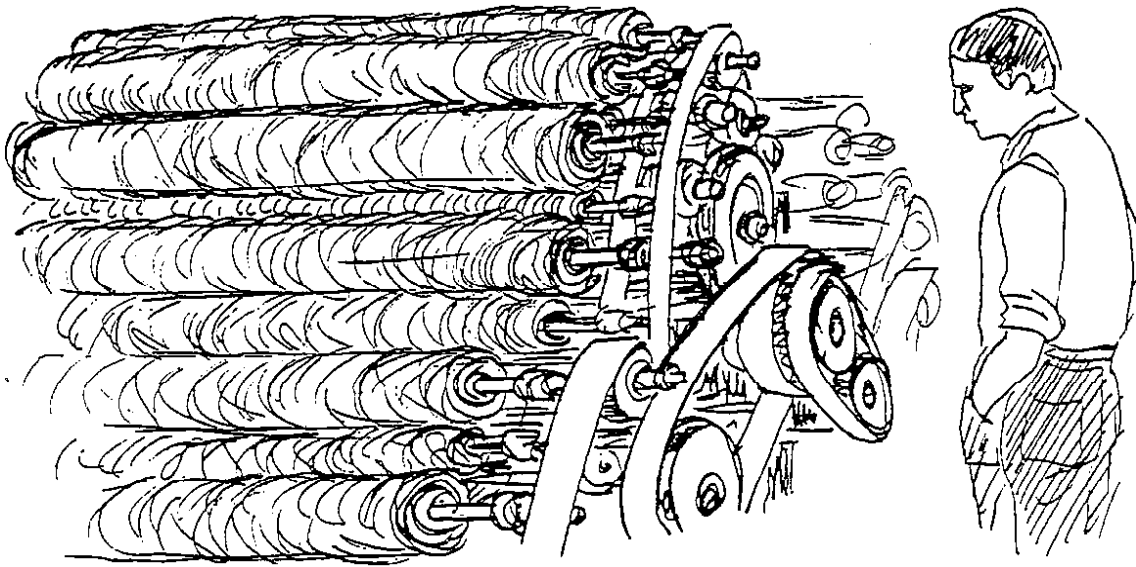
Sheep are ruminant animals. They have a 4-compartment stomach. Like cattle, deer, and camels, they can live on grass or other plants. Animals with simple stomachs such as swine, dogs, and humans cannot live solely on vegetation because we are unable to digest the cellulose to obtain the nutrients. Therefore, sheep, cattle, and camels can eat foodstuffs which humans cannot. Food processing by-products, steep pasture slopes, and sparse plant growth in dry terrain are all possible food sources for this ambitious forager. Their fiber product, wool, is one of the warmest fibers on earth. Wool will even prove warm when wet. Wool is fire resistant, long wearing, and soft. Scratchy wool is often that which is recycled, short stapled, and lower grade than that of top quality, long stapled, pure virgin wool. Natural fleece also makes a top-notch duster which holds dust rather than pushing it around as a feather duster does.

Shearing sheep is much the same as cutting hair. Shearing is done once a year--usually spring--and is necessary for the modern sheep. If sheep are not shorn, they can suffer from over-heating (heat exhaustion) during hot summer days. Many believe that shearing is cruel when actually not shearing is the cruelty. (Some sheep are shorn in fall, others are shorn twice a year - spring and fall..)

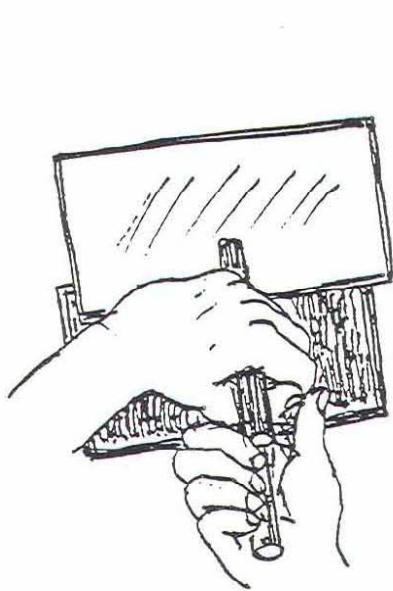
The length of the fleece on the sheep's body will equal the length of the individual fibers. This is called the staple. Some breeds of sheep (the wool breeds) grow more wool and higher quality wool. Their staple is longer and kinkier. The kink (or waviness) of the fiber is what helps link one fiber to another during twisting.

Like uncombed hair, the fleece is tangled and matted. In order to spin the fibers into yarn, the fibers need to be running in parallel with each other. This is done by carding. By hand, carding is done by placing some fleece between two cards and drawing one card against each other. One card holds the fleece and one card straightens it. To explain this to students, relate this to brushing or combing hair. The hair is held in place by their scalp and the brush lines up the hair. You can line up the fibers in fleece the same way by holding onto the fiber and combing with

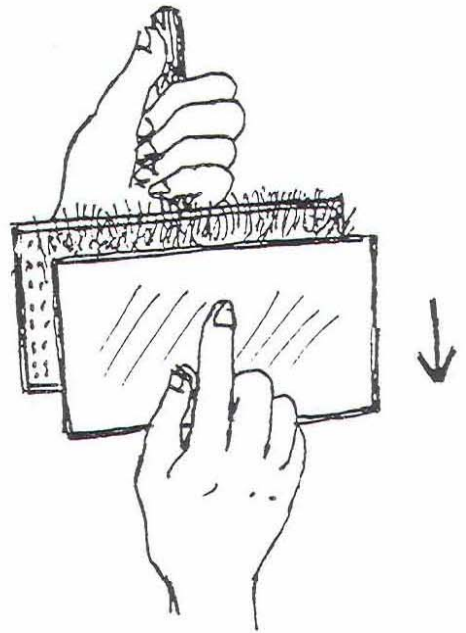
the card, but it would be a very slow process. Large machines card wool today. The carded wool (roving) can then be spun. Spinning is simply twisting the fiber together, the fibers grasp one another and become strong. Spun wool is called yarn. Yarn is then knitted or woven into cloth.



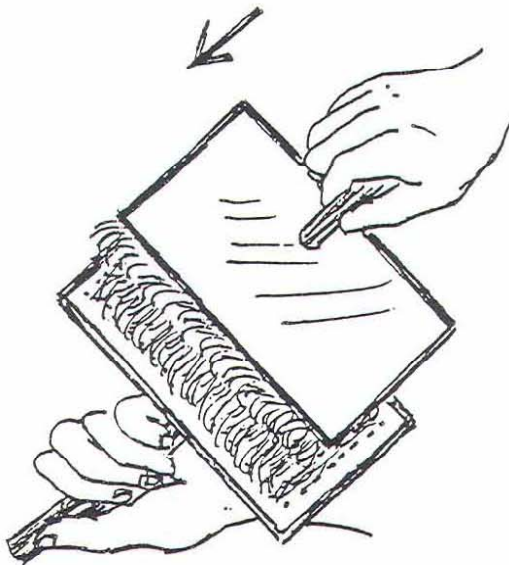
Carding



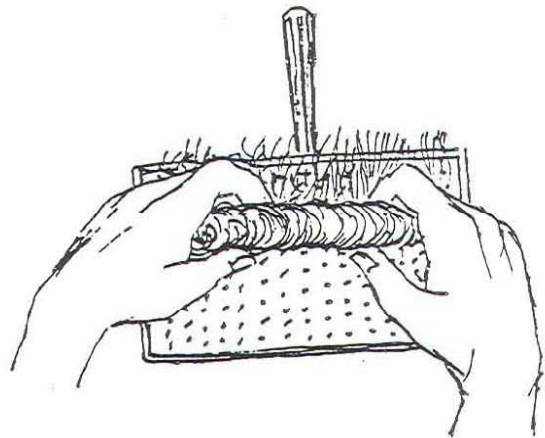
1.



2.



3.



4.

Vocabulary

wool

stomach

desert

fleece

shear shearing sheared shorn

lanolin

card carding

fibers

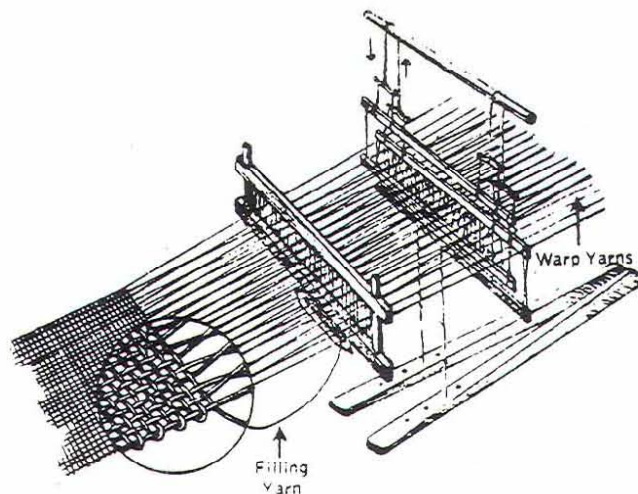
machines

spin spinning spun

weave woven

yarn

loft



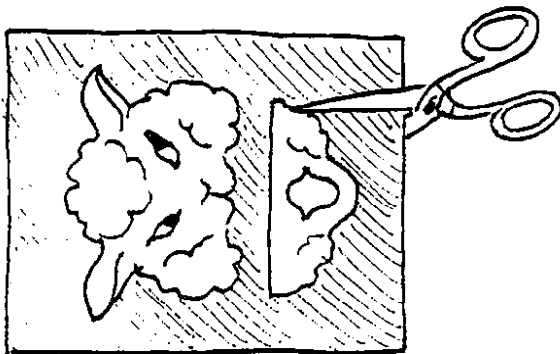
Sheep Puppets

MATERIALS: brown lunch bags
copies of the "Sheep"
color - crayons, paint, markers (not much is needed)
paste
construction paper
scissors

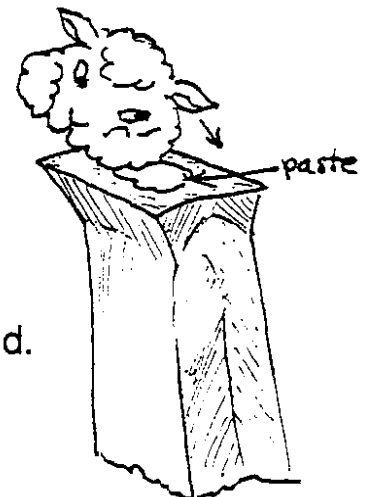
ACTIVITIES: 1. Glue the puppet's face onto construction paper (or copy it if possible).



2. Have the students cut out the two parts of the puppet's face.



3. Paste these onto the paper bag:
a. the chin fits under the bag's fold.



- b. the face covers the bottom of the bag.



4. Color the :

- a. mouth - pinkish or reddish



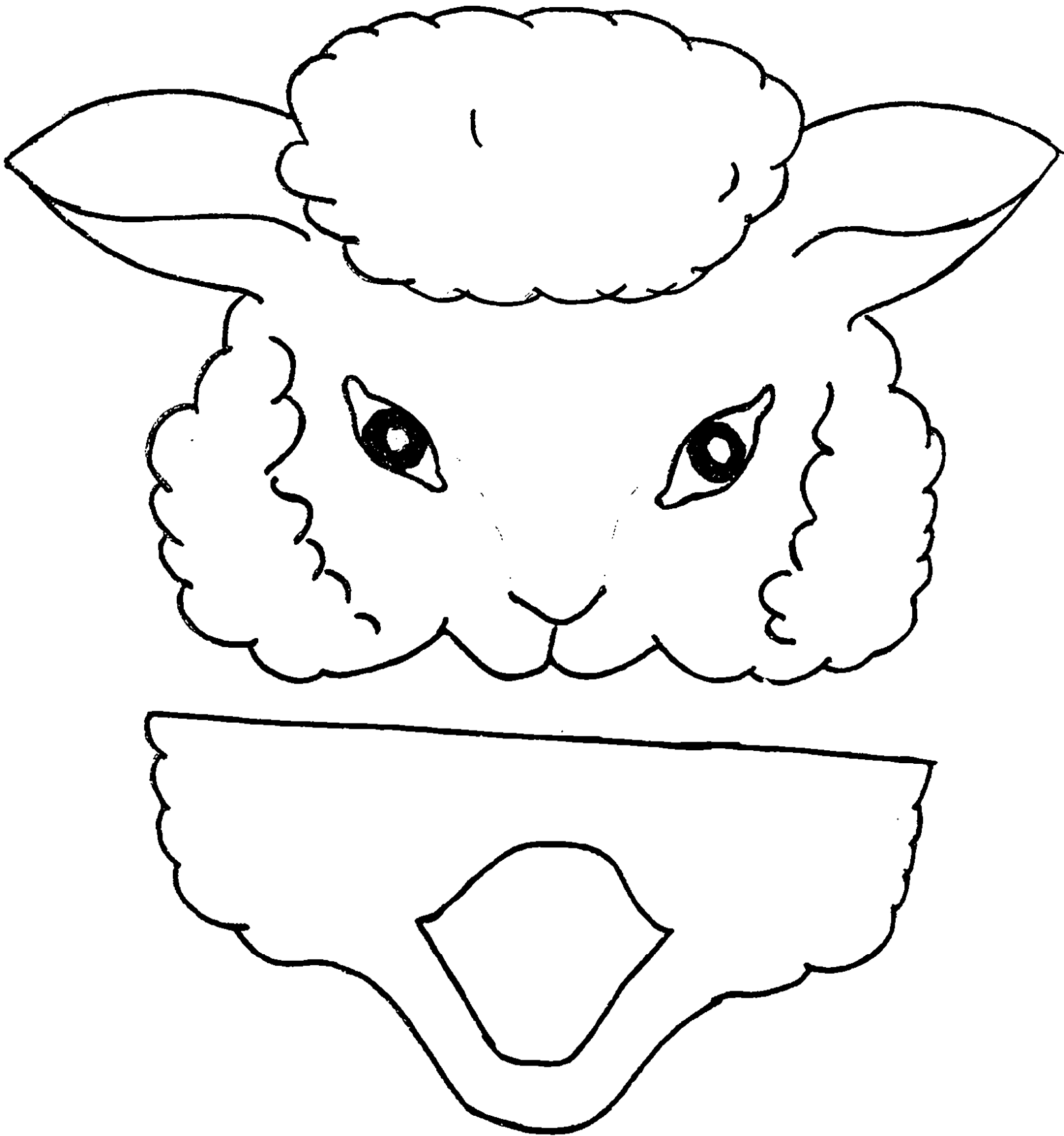
- b. the face - tan, black, off-white or brown (to be technically accurate).
- c. the inside of the ears - flesh colored or pinkish.

5. Have the student use their puppets.

- a. slide hand inside bag



- b. bend fingers to fit folded flap (By moving the finger slightly, the puppet's mouth moves and appears to be talking).
 - c. The puppet can be used when telling stories or having the student relate what they know about sheep--nursery rhymes, etc.
6. From a teacher piloting these materials - "This is a good beginning for creative stories and poems. One student (through the puppet) explained the wool procedure from beginning to end. (This student added arms and knitted mittens to his puppet and explained how the mittens were made.)"



Sheep Bulletin Board

MATERIALS: copies of sheep
familiar phrases, words, rhymes about sheep
markers

BACKGROUND: Teachers piloting these lessons indicated that they were surprised and amazed at how many words students could add to the list, how creative they were and how much they knew. Many of these comments came from New York City teachers. As a result of student input, we have added several words to our original list.

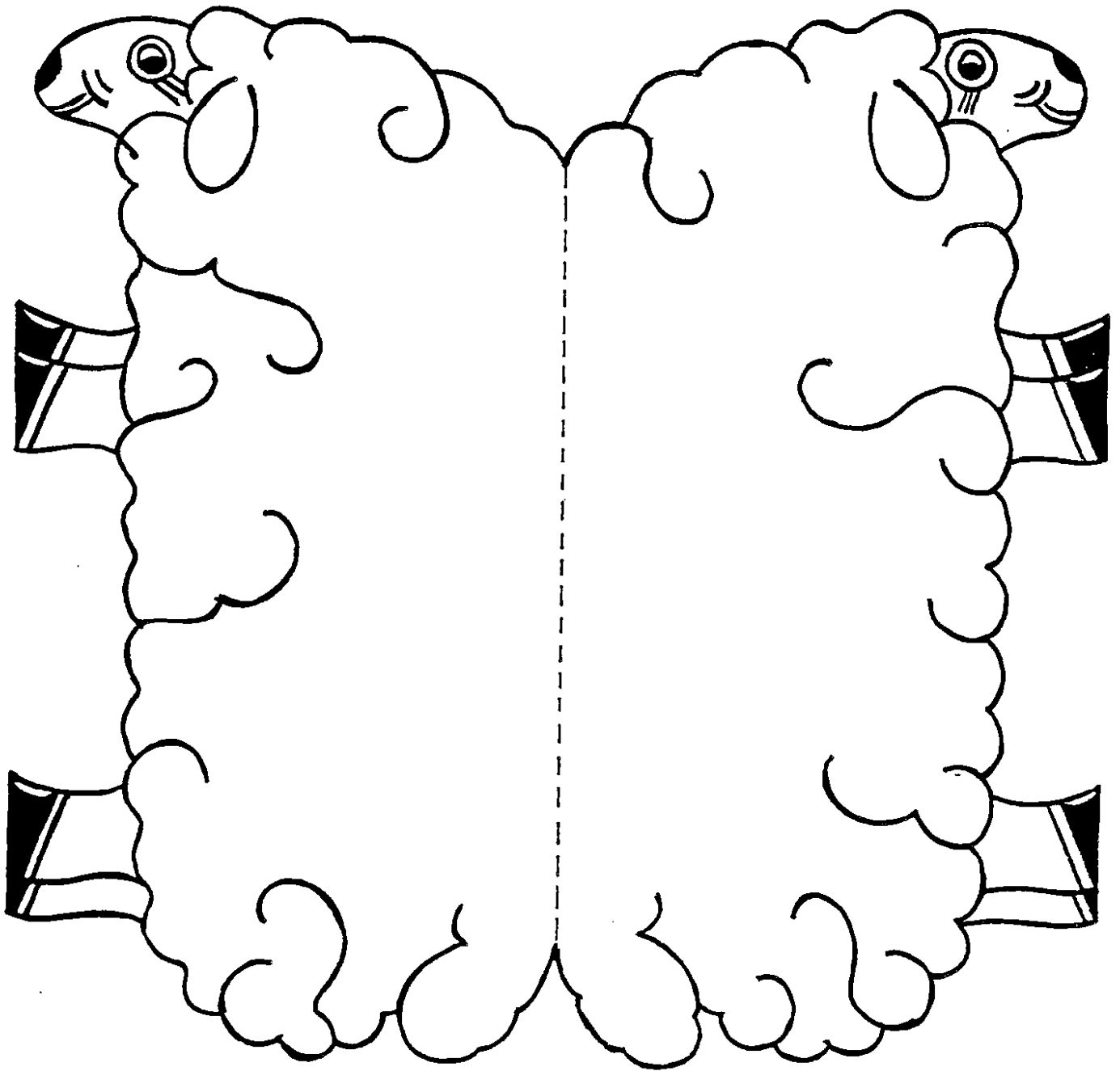
- ACTIVITY:**
1. Make copies of the sheep.
 2. In each sheep place a familiar word, phrase, or rhyme. It may be necessary to link sheep together in a "flock."
 3. Make a bulletin board of these.
 4. As the students learn about sheep, add the vocabulary to the bulletin board list.
 5. If able, have the students divide these into nouns, verbs, adjectives.

Suggested words, phrases, rhymes:

sheep	wool	lamb
fleece	knit	crochet
yarn	crook	flock
shepherd	collie	spin
gather	spinster	ram
ewe	counting sheep	scarf

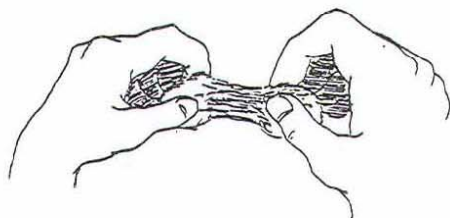
Little Boy Blue sweater
spinning wheel pasture
mittens sheep dog
tend to the sheep
Mary Had A Little Lamb
Baa-Baa Black Sheep

Little Bo Peep
hat
watch

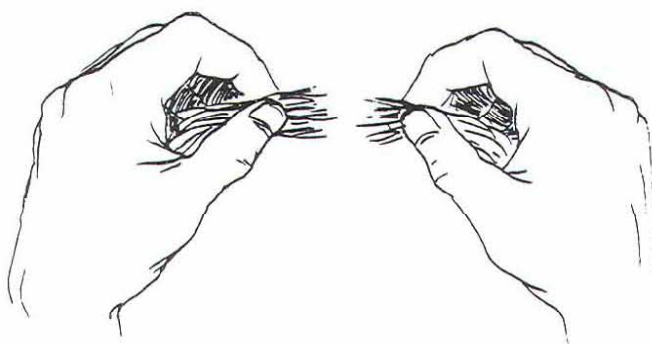


Spinning

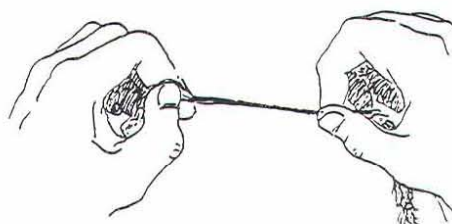
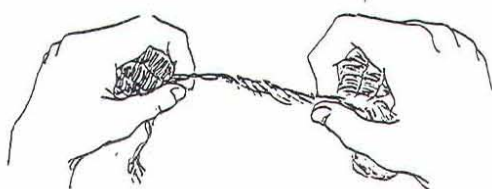
1. Take the carded wool fibers, try to pull them apart.



2. Do they pull apart easily?



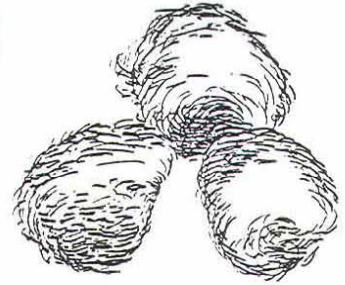
3. Now lay those fibers in a row and twist them.



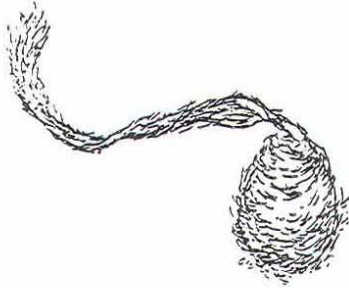
4. With the fiber twisted, (this is yarn) try to pull it apart.
5. Is it quite as easy?
6. Now twist your yarn into the person's next to you.
7. Can you pull them apart?

Spinning A Cotton Ball

Cotton can also be spun.

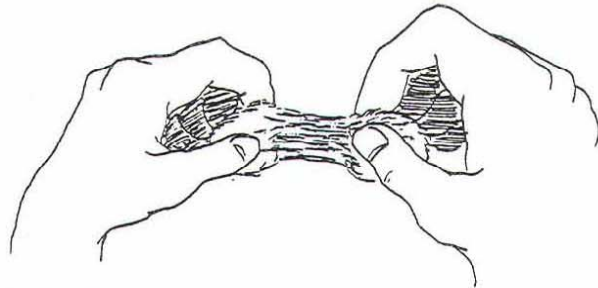


1. Unroll the cotton ball you are given.

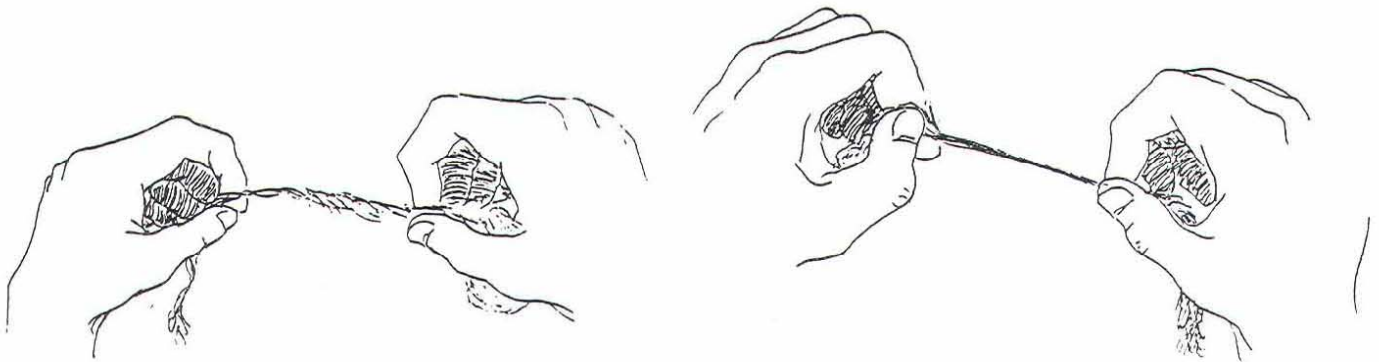


2. Divide the fiber in half.

3. Can you pull it apart?



4. Put the fibers in a row and twist it together. This is now yarn.



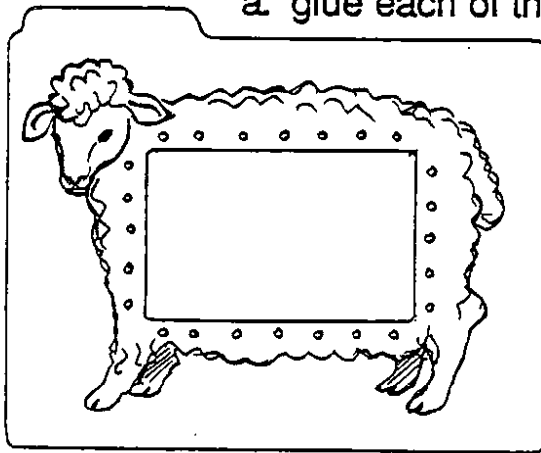
5. Can you pull it apart as easily?
6. Twist your yarn into the person's yarn next to you.
7. Try to pull it apart. Can you do it?

Weaving

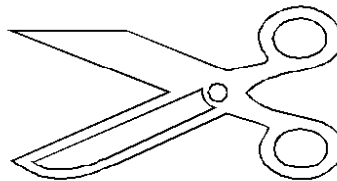
MATERIALS: tagboard or heavy posterboard - at least 10" x 12"
- a file folder works well
scissors
holepunch
color - crayons, markers, paint
yarn
darning needles/paper clips/pipe cleaners

- ACTIVITIES:** 1. Make enough copies of the "Weaving Sheep" for each student to have one.
2. Have the students:

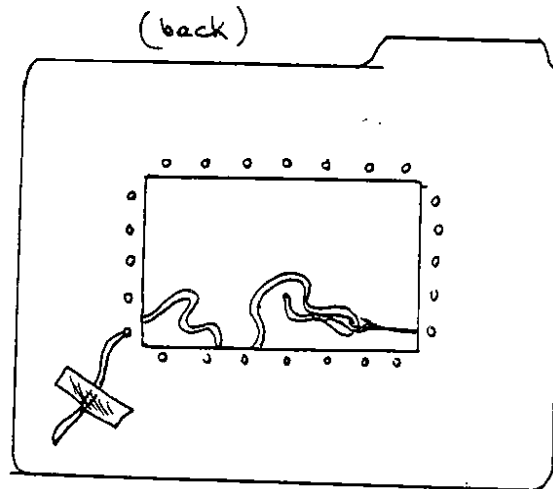
a. glue each of these to a file folder or tagboard



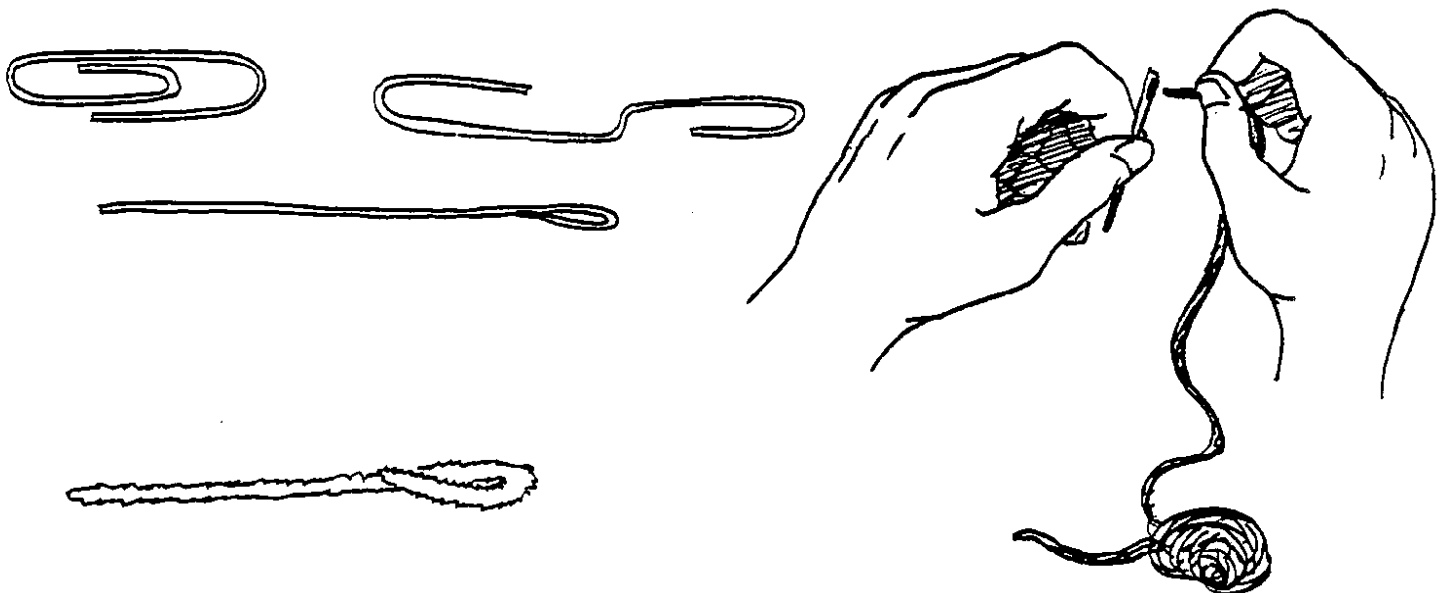
b. cut out the center square (a box cutter works well)



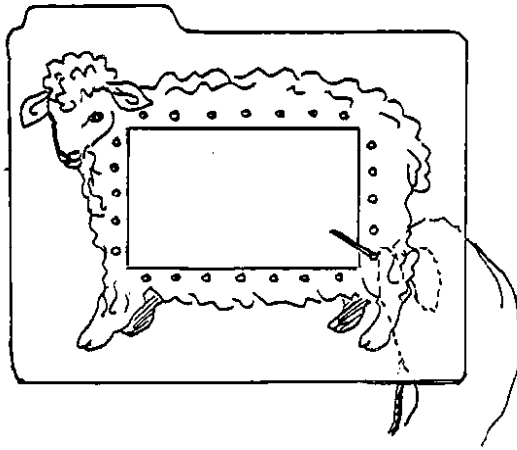
- c. punch out holes with a paper punch where each black dot appears
3. Have the students paint or color their sheep. (White sheep are preferable to producers but faces, legs, and hooves will be either black, brown, or white.)
 4. Have the students tape one end of a yard of yarn to the backside of the sheep.



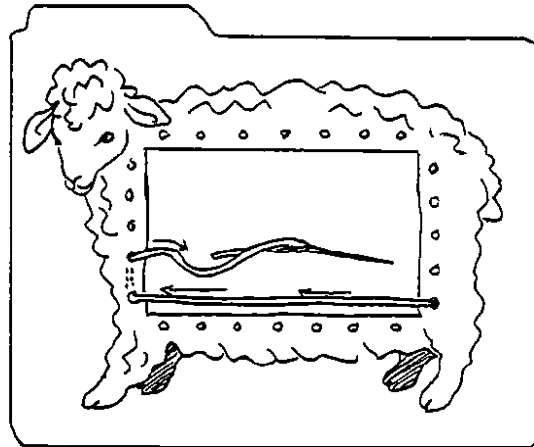
Insert the other end into a darning needle or make a threading tool out of a pipe cleaner or paper clip.



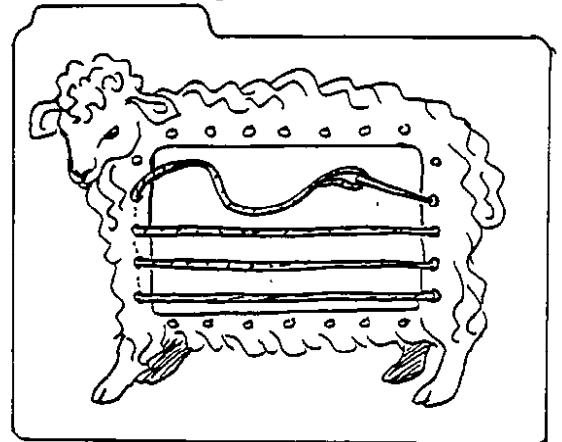
5. Poke the yarn through the bottom right hand hole of the weaving sheep.

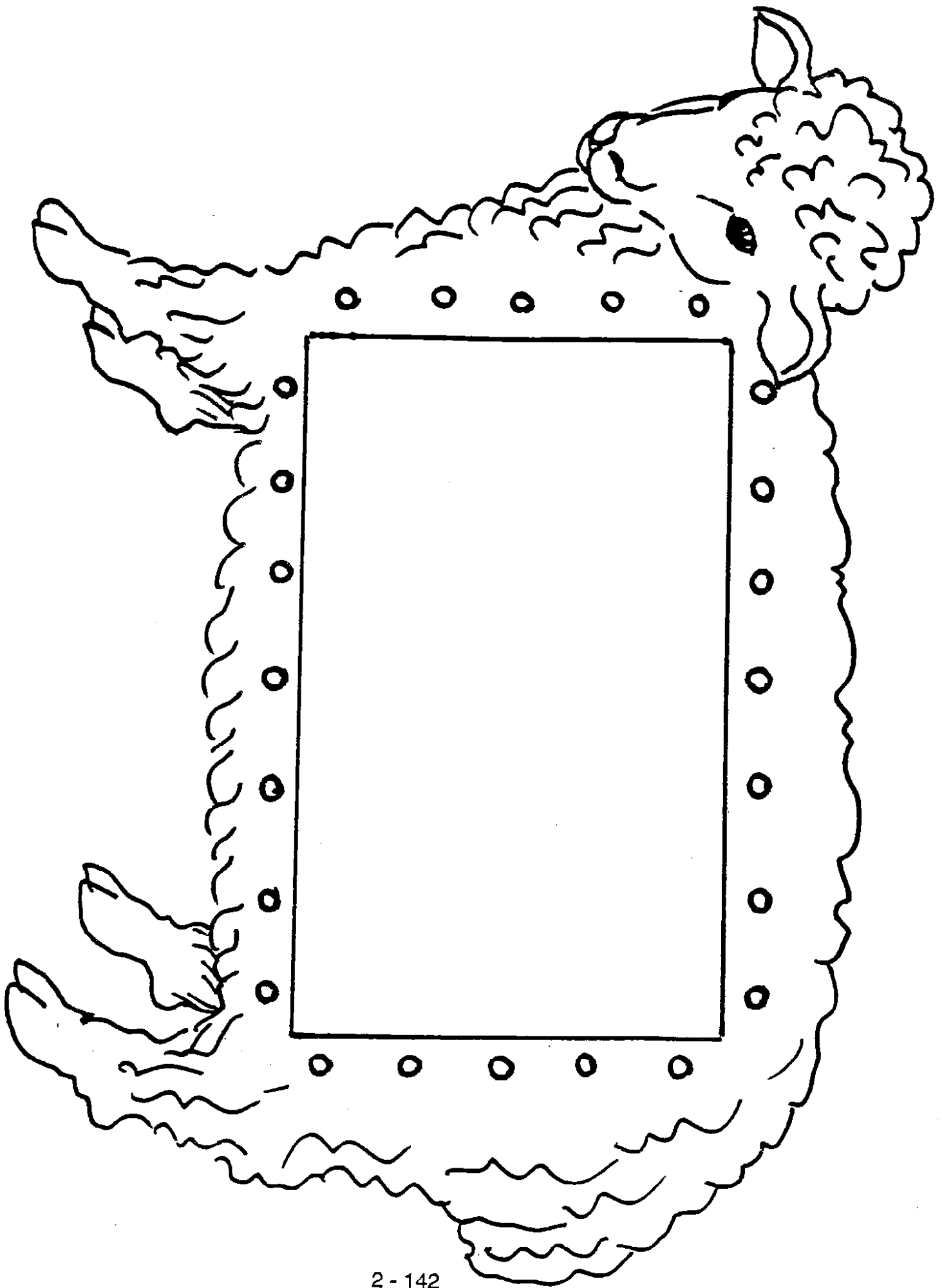


6. Bring the yarn over to the bottom hole on the left then up to the second hole on the bottom left and so on until the holes are filled travelling from side to side.



7. Anytime or place the yarn does not completely fill the holes, add another piece by tying it on.





Mary and Her Lamb

A real little girl and her pet inspired a schoolboy poet

by Dick O'Donnell

*"Mary had a little lamb,
Its fleece was white as snow,
And everywhere that Mary went
The lamb was sure to go"*



There were two newborn lambs in the pen. The first appeared to be in excellent health. The second, a weak wobbly thing, seemed to lack the strength to survive until tomorrow.

The young girl had her choice of the two newborns. She adopted the frail one, and immediately set to work to nurse it to good health. She bottle fed the gentle little thing, and it responded to her loving care.

A few days later, the lamb that was not supposed to survive was romping in the pen with the healthy one. The young girl was overjoyed. She named her pet Snow, and sewed pantalettes for it.

The girl's name was Mary Sawyer, and she lived on a 150-acre farm in Sterling, Massachusetts, back in 1814. That day in April when she adopted Snow, Mary was only six years old.

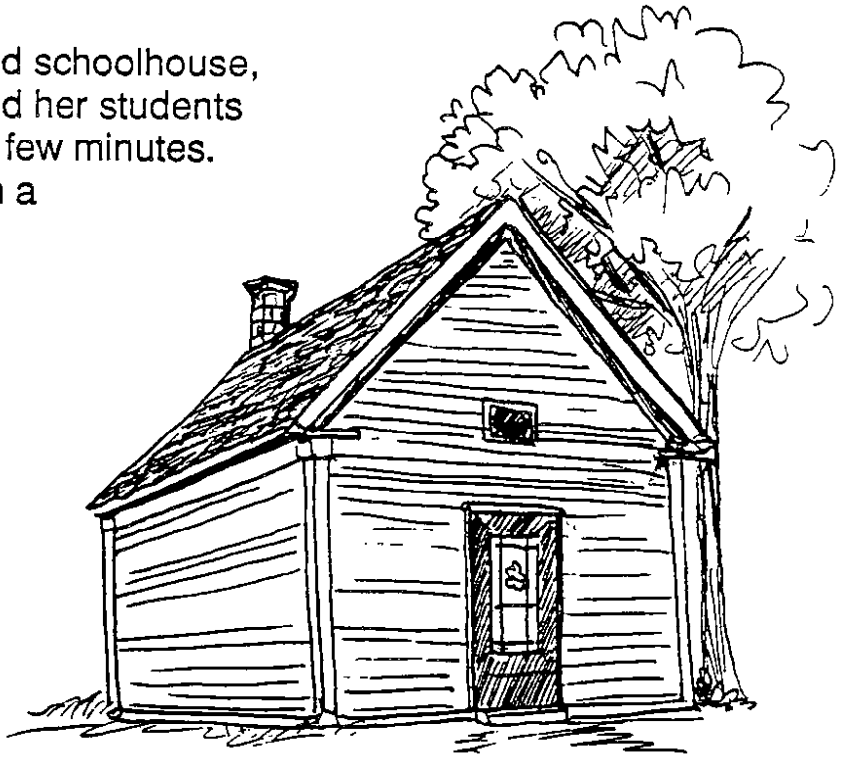
Off to School

In the fall of that year, Mary started attending classes at the little red schoolhouse near her home. The one-room structure, which served as a school for youngsters of all ages, was known as the Redstone School.

Every morning before leaving for school, Mary would drop by the pen to pat Snow on the head. The lamb often tried to follow the girl, but she always managed to close the gate before the animal got out. However, one morning, Mary's brother Nathaniel, as a joke, left the gate open to

see if the lamb would follow his sister to school. It did.

The teacher at the little red schoolhouse,
Miss Polly Kimball, allowed her students
to play with the lamb for a few minutes.
Then, Snow was locked in a
nearby shed until classes
ended for the day.



A Young Poet

In the class at the time was a budding poet named John Roulstone. He wrote a short poem about the episode and handed it to Miss Kimball. It went:

"Mary had a little lamb,
Its fleece was white as snow,
And everywhere that Mary went
The lamb was sure to go.

"He followed her to school one day,
That was against the rule.
It made the children laugh and play
To see a lamb at school.

"And so the teacher turned him out
But still he lingered near
And waited patiently about
Till Mary did appear."

Roulstone was only 13 when he penned the poem. He died four years

later, while a divinity student at Harvard University.

A Children's Classic

In 1830, Sarah Josepha Hale, editor of Godey's Magazine for Ladies, which was published in Boston, requested readers to send poems for a book she was editing. In her mail one day, she received a copy of Roulstone's poem. It is believed it was sent to her by teacher Polly Kimball, who apparently had saved it all those years.

Sarah Hale decided the poem needed a few more verses to give it a "moral," so she added them. They read:

"And then he ran to her, and laid
His head upon her arm,
As if he said, 'I'm not afraid,
You'll keep me from all harm.'

'What makes the lamb love Mary so?'
The eager children cry.
'O Mary loves the lamb, you know,'
The teacher did reply.

'And you each gentle animal
In confidence may bind
And make them follow at your call,
If you are always kind.'"

Once the book was published, the poem was an immediate success. Parents recited it to their children back then; and so do parents today.

Mary's Life

Mary Sawyer died in 1889. Shortly before her death, she wrote an account of how the poem came to be written. Every fact in the account has since been verified.

Her lamb died a year after its famous walk to the schoolhouse. Mary's mother, Betsey, knitted two pairs of stockings for her from the fleece taken off the lamb.

In 1882, money was needed to save the historic Old South Church in Boston. Mary lived in nearby Somerville and attended services at the church every Sunday. To help out, she unravelled the stockings her mother had knitted and attached pieces of the yarn to autographed cards, which she sold to souvenir collectors.

She raised more than \$100 for the church fund. However, she did not sell all of the yarn--she kept one souvenir card for herself.

Mary's body is buried in Mt. Auburn Cemetery in Cambridge, not far from Boston. The card with Snow's fleece on it is said to have been buried with her.

reprinted from Agway Cooperator

contributed by Patricia Schrader, Cornell Cooperative Extension of Erie County