

# Why Do People Raise Sheep?

**Grade Level: K-3**

**Approximate Length of Activity: several class periods**

## Objective

### Teacher

1. Make students aware of the products and by-products we use that come from sheep.
2. Teach students the difference between “man-made” and “natural,” as well as “renewable” and “nonrenewable” resources.

### Students

1. Learn what products and by-products come from sheep.
2. Explain the difference between man-made and natural fibers.
3. Understand the difference in renewable and nonrenewable resources.

**Michigan Content Standards: (Social Studies) G.05.0.1; 1-G5.0.1; 2-G5.0.1; 3-G4.0.1**

## Introduction

Because sheep can feed nearly anywhere and provide wool as well as meat, men have taken sheep along on their migrations. The Spanish explorers brought sheep to the New World on their voyages of exploration. Colonists and settlers found sheep invaluable as a source of good quality protein (meat) and wool for clothing. The wool from sheep can be used to make clothing that protects us much in the way that the wool protects sheep from severe weather. Not only do sheep provide a supply of meat, many of the by-products are used in the manufacturing of many consumer items, which are enjoyed by and contribute to our health and convenience.

Sheep are animals that help our environment in many ways. Sheep do not have any top front teeth, so when they pull out grass and weeds to eat, they do not pull out the roots of the plants. This helps the roots to grow a new plant. Plus, sheep are used in many areas where brush needs to be controlled. Many areas of the United States have problems controlling underbrush in forests and other areas. When there is too much underbrush, under the right conditions forest fires can easily begin. In order to prevent these fires, the U.S. Forest Service use sheep to feed on the brush. This helps to prevent forest fires and save hundreds of trees, plants and wildlife.

Another interesting characteristic about sheep is that they have split hooves to help them move about and climb rocky areas (such as those in forests!) But these split hooves also help to break up the soil. This helps spread seeds so new plants will grow. It also helps plants and other vegetation to obtain water and nutrients better because the soil has been loosened.

Sheep provide us with food and fiber. Sheep provide meat called lamb or mutton and fiber that is called wool. Lamb and mutton are very nutritious. They provide protein, iron, B-vitamins and zinc. These nutrients help us to build muscles and strong bones, give us energy and make our hair shiny. The wool that sheep provide is used to make clothing and rugs. Plus various parts of sheep are used to make many items such as yarn, insulation, tennis balls, baseballs, upholstery, chewing gum, industrial oils, stearic acid, cosmetics, ceramics, medicines, crayons, candles, creams and lotions,

surgical sutures, piano keys, adhesive tape, buttons, ice cream, shampoo and conditioner, crochet needles and much more!

Wool is harvested by shearing, or cutting, the wool off of the sheep. The wool of sheep makes a very interesting fabric. Items made with wool are wear-resistant. This means that wool can keep its shape when it comes to wear and tear. Wool is a good absorber. Because of this, wool will soak up dyes very well. Wool also absorbs water and still keeps the skin feeling dry. This occurs because an air pocket surrounds the skin and makes the skin feel comfortable. So even if the wool is wet, the skin feels warm and dry.

According to the American Sheep Industry there were 6.1 million head of sheep spanning the 50 states as of January 1, 2008. There are 82,000 head of sheep in Michigan.

## Materials Needed

- “Sheep or No Sheep Cards” one set per student
- Man-made or Natural Fiber Guessing Board (instructions in Activity 2)
- Samples of wool, acetate, polyester and cotton for experiments (1/4 yard each-can obtain from a fabric store)
- Wooden clothespins (one per group)
- Metal hangers (one per group)
- Matches
- Half teaspoon measuring spoons
- Cups or petri dishes (three per group)
- Water
- Drawing paper

## Activity Outline

### Activity 1

1. On a half sheet of paper, have the students draw a picture of a sheep. On another half sheet paper, have the students draw a picture of a sheep with a line going through it (like the “Ghostbusters” symbol).
2. Give one set of “Sheep or No Sheep Cards” to each student. They should be cut apart on the solid line.
3. Ask the students to group the pictures into two groups – the products that are made from sheep should be placed under the picture of the sheep. The products that do not come from a sheep should be placed under the “no sheep” picture.
4. Remind the students that this is their guess and that most likely no two people will agree on exactly the same groupings.
5. Make a class graph (picture or bar) of the guesses.
6. Determine which of the picture cards represents products made from sheep. (The products from sheep are china, steel knives, asphalt road, tires, cheese, string instruments and drums, syringes and medicines, wool coat, camera and film, fire resistant, marshmallows, cosmetics, soap, leather goods and lamb meat.)

## Activity 2

1. Man-made or Natural? Obtain eight to 14 different kinds of fabric pieces each about 2" x 3"- some natural and some man-made. Fabric store employees should be able to help you. Make sure that you have samples of silk, cotton and wool-the three main fibers. Glue samples on a board and number each piece of fabric. This is your Man-made or Natural Fiber Guessing Board.
2. Discuss the difference between man-made and natural products. Man-made products do not exist on the earth in natural form. Natural products can exist on the earth, somewhere, without the assistance of man. For example, coal and crude oil are natural substances, but the products made from crude oil such as asphalt and gasoline are man-made.
3. Have each of the students examine the different fabrics and guess which ones are man-made and which are natural.
4. Discuss the answers with your students. (Silk comes from the cocoons of silkworms. Silkworms eat mulberry leaves. Cotton comes from a plant. Wool comes from sheep.)
5. Explain to your students that the natural fibers on the fabric board are renewable rather than nonrenewable fabrics and can be obtained over and over again relatively easy. Synthetic fabrics are usually made from petroleum, which is nonrenewable. Discuss why some people believe that only natural fibers should be used for clothing-there are pros and cons to this issue.
6. Discuss how each of the fabrics feel. Are there differences in how the man-made vs. natural fibers feel or has man been able to make good imitations of the natural products?

## Activity 3

1. Ask the students to think "wool and rain" and "wool and perspiration." Have them make predictions about how wool reacts with water on a data and results page. Ask the students how their predictions could be tested. Perhaps you could suggest the following procedure.
2. Cut a piece of wool and a piece of acetate into rectangles approximately 2" x 3". All rectangles should be the same size.
3. Place each sample into a separate cup or petri dish.
4. Pour a half teaspoon of water onto each sample and let them sit long enough so that all of the water is absorbed. The entire sample should be wet but not dripping wet. Squeeze out any excess water.
5. Remove each sample and place it on a person's arm. For comparison reasons, it is best to have both samples on the same arm at the same time. Each person in the group should actually experience the feel of the materials.
6. Observe and discuss the following:
  - a. What did the two fabrics feel like on the skin?
  - b. Which fabric felt the wettest? Driest?
  - c. Which fabric felt the warmest? Coldest?
  - d. Did any of the fabrics stick to the skin?
  - e. Why do you think wool is a desirable fabric for clothing?
  - f. Record what was learned on a data and results page.



*(Teacher's Note: The wool should have felt the driest and the warmest. The acetate should have felt the wettest and the coldest. Wool fibers have scales on the outside of the fiber and are able to absorb moisture to the inside of the fibers. This allows wool to absorb 30 percent of its weight in water. Since the water is absorbed to the inside of the fiber an air pocket surrounds the skin and makes the skin feel comfortable. The skin feels warm and dry even if it's wet. This air pocket also helps during hot weather too- a person can perspire more, which helps him/her cool down, because the wool absorbs the moisture. Cotton and acetate do not absorb moisture into the center of their fibers; therefore, a person feels cold and wet when they are exposed to moist fibers.)*

## Discussion Questions

1. Name three products that come from sheep?
2. What is the difference between "man-made" and "natural?"
3. Explain the difference between "renewable" and "nonrenewable." Why do we consider wool to be renewable?
4. Which fabric stuck to your skin?
5. Which fabric seemed the driest?
6. What are some ways that sheep help the environment?
7. What is something interesting that you learned about sheep that you did not know before?

## Related Activities

1. Contact your county Farm Bureau to find out information about visiting a sheep farm or bringing sheep to your school.
2. Show a video about a sheep being shorn.
3. Show the students a world map or a transparency of the world. Color in or mark Australia, Russia, New Zealand, Argentina, South Africa and the United States. Ask students if they know what these nations have in common. They raise many sheep

## Resources

1. From Fiber to Fabric...Wool's a Natural video, \$12 plus shipping. American Wool Council/American Sheep Industry Association, 6911 South Yosemite, Englewood, CO 80112-1414, (303) 771-3500.
2. Sheep on the Farm-A Video Field Trip, a homemade production for \$5.00. Ag Experience, 3144 N. G Street, Mered, CA 95340, (209) 358-9057.
3. "Sheep Out to Eat" by Nancy Shaw
4. "A New Coat for Anna" by Harriet Ziefert and/or "Charlie Needs a New Cloak" by Tomi dePaola. (These books show the fleece-to-fabric process.)

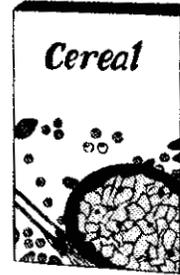
*Acknowledgement: Adapted from "Why do People Raise Sheep" Illinois Farm Bureau® Agriculture in the Classroom.*



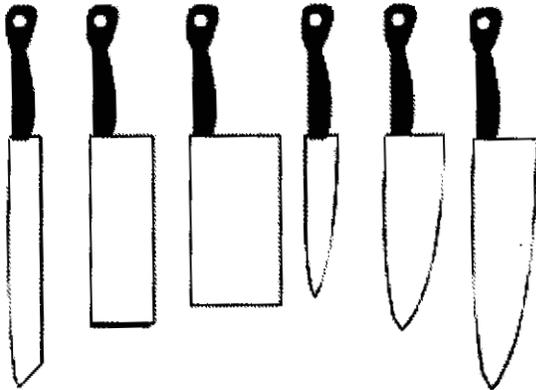
# Sheep or No Sheep Cards



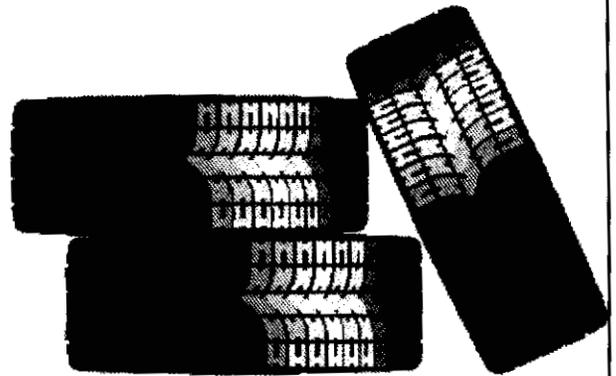
china



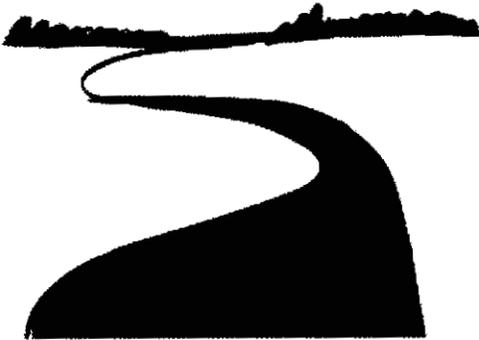
cereal



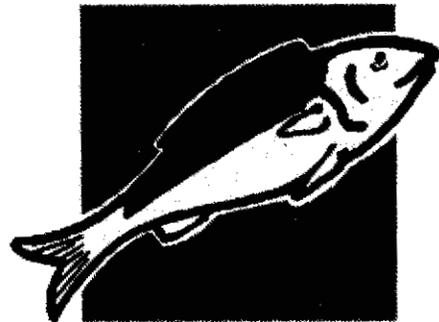
steel knives



tires

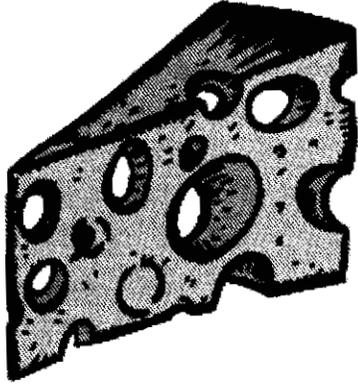


asphalt road



fish

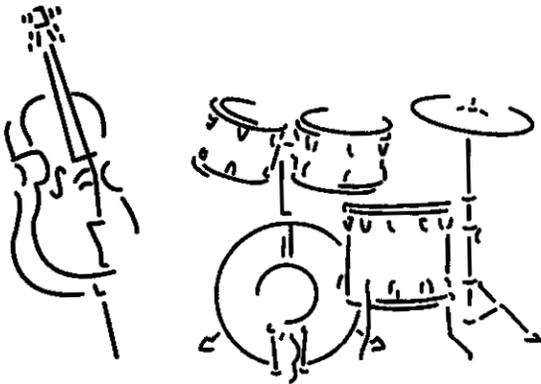
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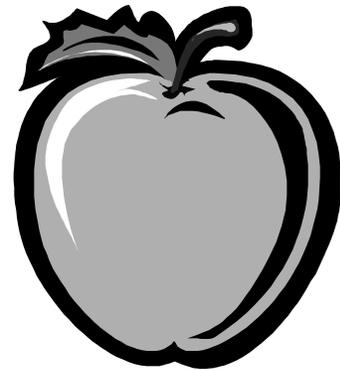
cheese



syringes & medicines



string instruments and drums



apples

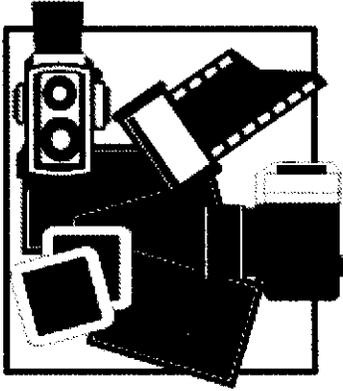


chicken

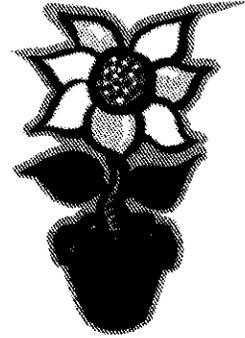


wool coat

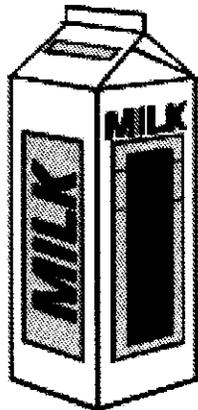
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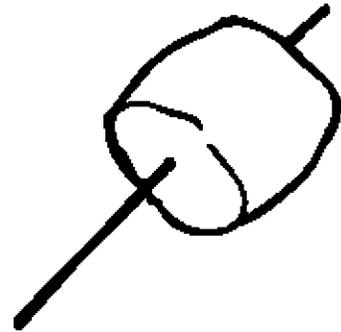
camera & film



flowers



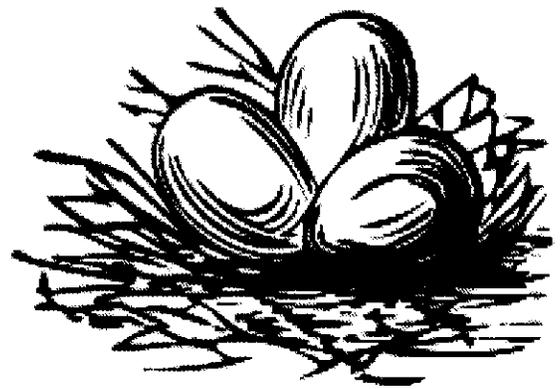
milk



marshmallows

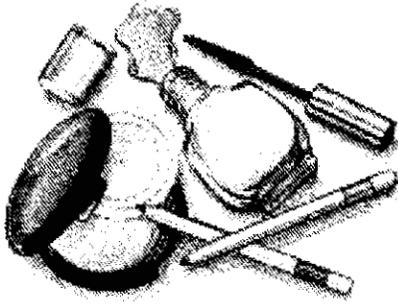


fire - resistant



eggs

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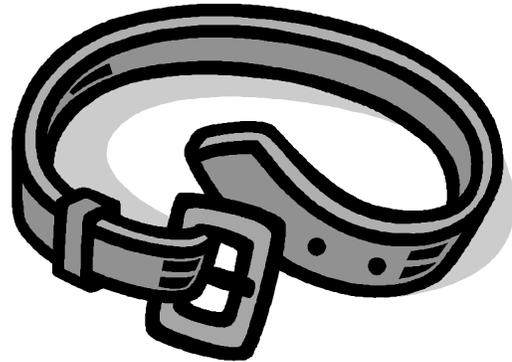
cosmetics



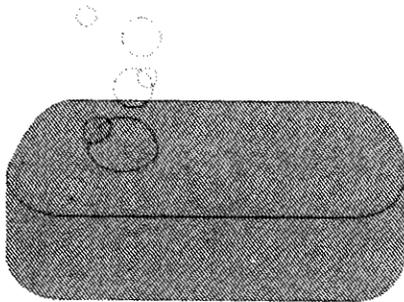
fruit



turkey



leather goods



soap



lamb meat