

# A Puff of Smoke You Can Hold

**Activity:**

Students observe, identify and describe the natural fibre from sheep.

**Curriculum Fit:**
**Grade 2 Science Topic D: Hot and Cold Temperature**

**SLE 2-9.8** Describe the role of insulation in keeping things hot or cold, and identify places where some form of insulation is used; clothing, homes, etc. **2-9.9** Identify materials that insulate animals from the cold; e.g wool and identify materials that are used by humans for the same purpose.

**Grade 2 Social Studies Topic 2.1 Canada's Dynamic Communities**

**SLE: 2.1.4** Investigate the economic characteristics of communities in Canada by exploring and reflecting upon: What kinds of natural resources exist in the communities (e.g., agriculture)? What are the occupations in the communities?

**Grade 3 Science Topic D: Animal Life Cycles**

**3-10** Describe the appearance and life cycles of some common animals, and identify their adaptations to different environments, **SLE:7.** Recognize adaptations of a an animal to its environment.

**Elementary Art Level One: Grade 1 & 2**

**Outcomes: E. Fabric Arts** Use a simple handmade loom to weave plain or tabby pattern. Braid wool or cloth strips to be used as enhancements.

**Elementary Art Level Two: Grade 3 & 4**

**Outcomes: E. Fabric Arts** Continue to advance weaving techniques beyond Level One to include such things as warping a simple loom: achieving interesting surface qualities with open weave, double weave; using looms that are not rectangular in shape; altering the weave on an existing, loosely woven fabric.

**Agriculture Concepts:**

Production, processing and marketing systems  
Diversity of agriculture

**Cognitive Level:**

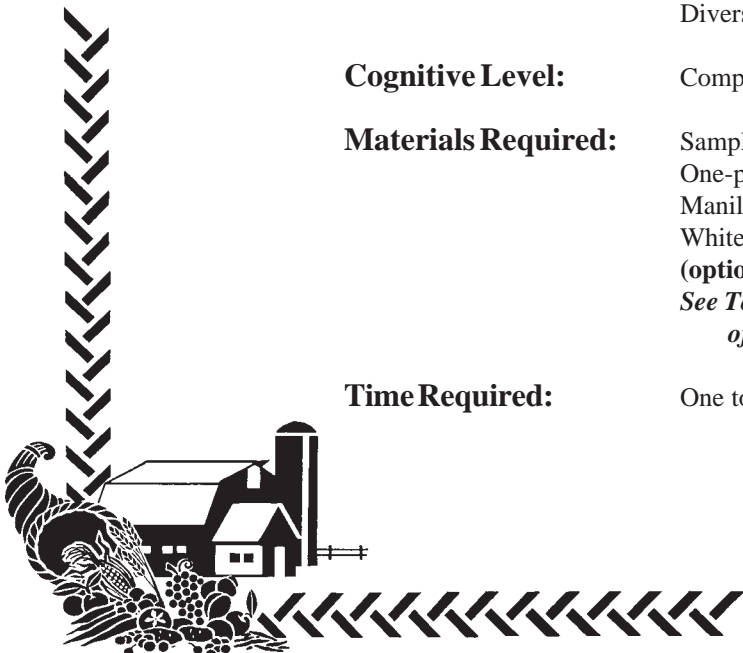
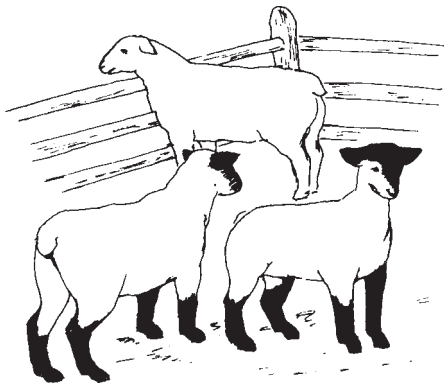
Comprehension, Application, Analysis, Synthesis

**Materials Required:**

Samples of unwashed wool, washed wool, carded wool, and dyed wool  
One-ply, two-ply, and three-ply samples of yarn  
Manila tag for mounting samples  
White paper to clean wool on  
(optional) Books about sheep and wool  
*See Teacher Resource Sheet #1 for suggested books and sources of wool samples*

**Time Required:**

One to two class periods



In Fabric Arts, students learn to weave on hand-made looms and to alter the weave of an existing loosely woven fabric (burlap). It is very easy to integrate the study of natural fibres using wool as a starting point. Small groups would be the most satisfactory for this hands-on activity.

## Procedure

### Preparation

1. If you are using an activity centre approach, prepare five other activities to be done independently in groups (see Teacher Resource Sheet #2). Then build up the children's knowledge by reading and discussing items that you feel they should understand in order to be successful at each activity.

### Introduction

2. Read *The Weavers Gift*, Chapters "A Puff of Smoke You Can Hold" and "Almost Magic."
3. Read *Warm as Wool* and discuss sheep in general.

### The Activity

6. Give each group a sheet of white paper to clean their wool on.

### NOTE

It is best to have student samples of raw wool wrapped in plastic wrap ahead of time. Show the children a fleece ahead of time, too, and have a small raw wool sample on hand for them to feel if they wish. This will also keep your classroom smelling fresher.

7. Lead your students through the following activities:
  - a) Choose a piece of unwashed wool that has been taken from the fleece in layers. This is a piece of raw wool. Discuss what raw wool means.
  - b) Observe the crimp in one fibre that you have pulled from your sample. Find the word crimp in your dictionary. Record the meaning in your glossary.
  - c) Feel the softness of the wool. How does it feel on your fingers? What word might describe the way it feels?
  - d) Now work with a piece of washed wool. Pull each lump apart over your piece of white paper. What do you see? (Students should record such things as dust, seeds, dried sheep ticks, thistles, hay

flakes, straw bits.)

- e) Use your fingers to pull apart the fibres of the washed wool and try to line them up in one direction. What happens when you let go of a fibre?
  - f) Choose a sample of dyed wool. Think about the colour. How could you find out about the dyeing process?
  - g) Choose your yarn samples.
8. Tell students they are to use the samples they have chosen in the preceding activities to create a visual story of wool. Hand out the manila tag and other art supplies (crayons, markers).

### Conclusion

9. Display completed projects in the classroom.
10. Brainstorm with students to produce a list of words that describe wool. Examples:  
The raw wool smells ..... feels .....  
The clean wool smells ... feels .....  
The raw wool looks .....  
The clean wool looks .....

## Discussion Questions

1. What is a natural fibre? Why do you suppose wool is called a natural fibre?
2. Did you notice something that might make the wool water repellent? (Natural oils or lanolin keep the sheep dry).
3. Wool is an insulator. How could you explain to your friends how this works. (Fibre crimp locks in air but allows the fabric to breath).
4. Compare a wool sweater with a cotton sweater. Discuss the differences.
5. Compare yarn: 1-ply, 2-ply, 3-ply. A single fibre of wool is covered with tiny hooks. Explain that individual fibres are twisted together so that the tiny hooks interlock into a single strand of yarn. The locking hooks give wool yarn its strength.

## Related Activities

1. Invite a wool producer to tell the class about the industry.
2. Visit a nearby farm with sheep.
3. Invite a resource person to demonstrate spinning and/or weaving.
4. Tour a woolen mill (see Teacher Resource #1 for possibilities).
5. Hold an open house in the classroom and invite parents to view student projects, students' creative writing, and sheep products. Students act as hosts and explain the displays to their parents.

by *Beatrice Kore*

## Teacher Resource Sheet #1

# Sheep: Resources

### Books About Sheep and Wool

*Warm as Wool* by Scott Russel Sanders, illustrated by Helen Cogancherry

*The Weaver's Gift* by Kathryn Lasby

*Sheep Out to Eat* by Nancy Shaw

*Sheep in a Shop* by Nancy Shaw

*Sheep* by Ralph Whitlock

*Argyle* by Barbara Brooks Wallace

*Here's to Ewe* [Riddles about Sheep] by Diane L. Burns & Dan Scholten.

*When Sheep Cannot Sleep* by Satoski Kitamura

*Beatrice and Vanessa* by John Yoeman and Quentin Blake

*Charlie Needs a Cloak* by Tomie de Paola

*What was It Before - before it was a sweater?* A Let's Find out Book  
by Roseva Schreckhise

*From Cotton to Pants* by Ali Mitgutsch

*Textiles* by Susie O'Reilly

*Textiles* by Heinz Kurth

*Weaving Step by Step* by Hilary Chetwynd

*Let's Discover Weaving* by Jenean Romberg

*Warm as Wool Cool as Cotton* by Carter Houck

*Weaving Without a Loom* by Sarita R. Rainey

*A New Coat for Anna* by Harriet Ziefert and Anita Lobel

*Ida & the Wool Smugglers* by Sue Ann Alderson and Ann Blades

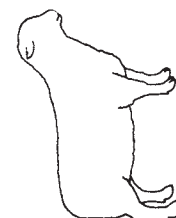
*The Shepherd Boy* by Kim Lewis

*Amos's Sweater*

*The Little Lamb*

*Lambs - see How they Grow*

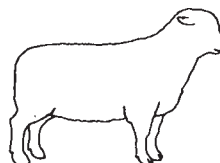
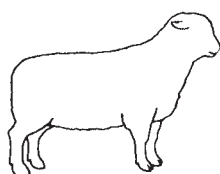
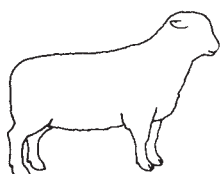
*Minikin* by Stephen Cosgrove



### Other Resources

Wool, Spindle and Literature, Teacher's Guide

Teacher's Guide for Exploring the Miracle



## Teacher Resource Sheet #1

# Sources for Wool Samples

**The Ontario Sheep Marketing Agency**  
50 Dovercliffe Road, Unit 13  
Guelph, Ontario N1G 3A6  
(A large kit complete with wool samples and spindles. Excellent but expensive)

**Wool Education Center**  
6911 south Yosemite Street  
Englewood, CA  
80112-1414  
(Fibre to Fabric American Wool Kit)

**Custom Woolen Mills, Ltd.**  
Daniel Fisher or Fen Roessingh  
R.R. 1  
Carstairs, Alberta T0M 0N0  
Phone: (403) 337-2221  
(Tour and/or information)

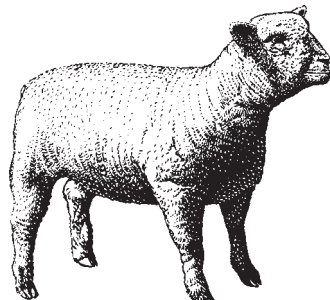
**Alberta Sheep and Wool Commission**  
#203, 2916 - 19 Street, N.E.  
Calgary, Alberta T2E 6Y9  
Phone: (403) 735-5111  
Fax: (403) 735-5110  
(Excellent source of materials)

**Alberta Sheep Breeders' Association**  
Breeders' Directory  
(Map of Alberta showing where the breeders are located)

**Publications Office**  
Alberta Agriculture, Food  
and Rural Development  
7000 - 113 Street  
Edmonton, Alberta T6H 5T6  
Phone: (403) 427-2121  
or 1-800-292-5697  
(Booklet, Alberta Wool - A Natural Resource)

**Sheep & Diversified Livestock Group**  
**Animal Industry Division**  
Alberta Agriculture, Food  
and Rural Development  
7000 - 113 Street  
Edmonton, Alberta T6H 5T6  
Phone: (403) 427-4571

**City of Fort Saskatchewan**  
Sheep Grazing Project  
Director of Economic Development  
10005 - 102 Street  
Fort Saskatchewan, Alberta T8L 2C5



# Sheep: Ideas for Activity Centres

1. Choose 4 books with the same title and have students read for enjoyment. Then students choose from a variety of task cards to complete Language Learning activities.
2. Use a microscope to analyse and compare natural fibres - cotton, linen, silk, wool, nylon, acrylic, polyester.
3. Turning wool into felt - need a helper at this centre.
4. Art - create a frame for a picture using a yogurt or margarine lid and follow the instructions provided at the centre.
5. Research products from sheep. See how many you can identify. (Much More Than Meat from a Sheep may be used as a related activity)
6. Create a label - care and content labels found on wool clothing.

