

Program Name: Felting: Science Friction

Artist: Carla Buchheit

Special Requirements:

2-3 Day Residency: warm water source; and old newsprint

Special Points of Interest:

Wool becomes felt when it is subjected to moisture, heat, and pressure. In fact, if domestic sheep were not shorn, over time their wool would felt or “cot”.

This program also available as a residency.

Workshop Description

In this workshop, Carla Buchheit will help students make objects out of wool and into felt while learning about the scientific process of friction.

Students are given lengths of wool roving which they dip in water and a soap solution. Then they rub the wool between their hands, causing friction to heat the wool and cause the fibers to lock together, creating felt.

Carla leads the students through the process of dyeing the felt using non-toxic dye and embellishing their works by sewing. These activities are adaptable to be age-appropriate for participating students.

Carla also gives the students

information about felting as an ancient craft and its uses in contemporary culture. For example, nomads in Central Asia made houses, shoes, saddles, and clothing from felt. Some people still live in felted houses or *yurts*.

Students learn to form the felt into different shapes. For example, students may create round shapes by imagining they have a golf ball in the palm of one hand. Cupping the other hand over the ball, they will slowly exert increasing pressure over a period of 5-15 minutes.

During the 2-3 day residency, students who sew onto their projects will use tapestry needles (blunt-nosed) with embroidery floss and short running stitches.

Educational Objectives & Standards

Students will:

- Develop fine motor-skills
- Learn spatial relationships by embroidering/designing their felt vessels or people.
- Learn the science of felting and dyeing by using wool roving.

Behavioral:

- Knows how a culture’s art works and artifacts reflect its values and beliefs

Science

- Understands the structure and properties of matter





Artist Bio

Carla Buchheit earned a Bachelor of Arts degree from Wichita State University. She has studied weaving and fiber art in Finland and has participated in various juried art shows in Kansas, Missouri, and Colorado.

Ms. Buchheit is the owner/operator of Ihana Brushing Service, the only napping service for head weavers in North America. She has written articles for *Handwoven* magazine and taught fiber finishing workshops in weaving conferences across the country.

Since 1993, she has been a guest artist at John Diemer Elementary teaching fiber art.

“My goal when teaching is to give students the skills they need to create their own beautiful, maybe useful, items,” says Carla. “I want them to feel capable of solving their own daily problems. I also want them to enjoy using their ingenuity to see and use the things they find around them in new and imaginative ways.”

List of Resources:

Books:

[The Art of Feltmaking: Basic Techniques for Making Jewelry, Miniatures, Dolls, Buttons, Wearables, Puppets, Masks and Fine Art Pieces](#)
(Watson-Guptill Crafts)

by Anne Einset Vickrey, Anne Vickrey
Watson-Guptill Publications;
(July 1, 1997)
ISBN: 0823002624

[Felt: New Directions for an Ancient Craft](#)

by Gunilla Paetau Sjoberg,
Patricia Spark Interweave
Press;
(May 1, 1996)
ISBN: 1883010179

[Feltmaking: Traditions, Techniques, and Contemporary Explorations](#)

by Beverly Gordon
Watson-Guptill Pubns;
(May 1, 1980)
ASIN: 0823016471

Contact KCYA for more information about this and other programs

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Vocabulary

Dye: a chemical process which permanently adds color to fibers or fabrics.

Fleece: the wool that comes from the sheep at one shearing.

Friction: the resistance of things moving against each other.

Man-made Fibers: fibers created by man through chemical processes.

Natural Fiber: those fibers found in nature, including wool, silk, cotton.

Protein Fiber: fibers that grow from animals. Examples are wool, hair, silk.

Roving: cleaned, carded wool that is ready to spin or felt.

Vegetable Fibers: fibers that come from plants: cotton, linen, etc.

Post-Workshop Activities

1. Talk about other kinds of friction. Examples include rubbing your hands together to heat them, brake pads stopping a car, and the space shuttle glowing red when it re-enters the atmosphere. What other examples can you think of?
2. Explore the day-to-day operations of a sheep ranch. What are the various occupations required to keep a sheep ranch functioning?
3. Study how a sheep is shorn. How is the wool gathered, processed, and prepared for market?
4. Design an item of clothing or satchel that can be made from felt.
5. Experiment with sewing through a felted surface to raise a three-dimensional shape, such as a nose on a face or a circle in the center of a design.
6. Analyze the properties of wool to determine why slightly damp wool should never be used to hold hot objects.