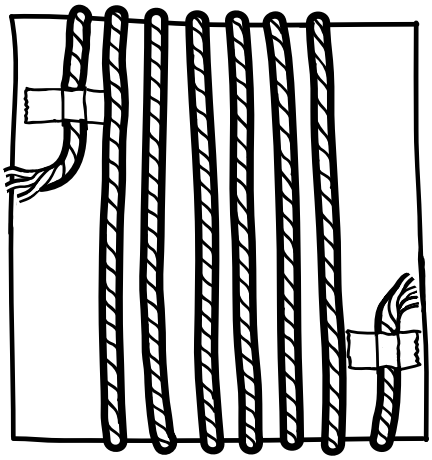
OVERVIEW

FABRIC



GOALS

Fabric, a material so often taken for granted, makes a fascinating study for early-childhood students. In the **Fabric Module** students are introduced to a wide variety of fabrics in a systematic way, so that they become familiar with fabrics' properties, discover what happens when they are tested, and discover how they interact with other materials, including water.

FOSS EXPECTS STUDENTS TO

- Develop a growing curiosity and interest in the physical world around them.
- Observe and describe the properties of different fabrics.
- Compare different fabrics to discover how they are alike and how they are different.
- Observe interactions of fabric with water and other substances.
- Communicate observations.
- Acquire the vocabulary associated with the properties of fabric.

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FABRIC MODULE MATRIX

SYNOPSIS	SCIENCE CONTENT	THINKING PROCESSES
1. FABRIC ALL AROUND Students explore a set of ten fabrics, investigating their properties and playing a matching game with feely boxes. They go on a fabric hunt and label the room to highlight all the things that are made of fabric. They take apart two pieces of fabric to discover the over-under pattern used to weave fabric together, then they weave their own piece of fabric using brightly colored yarn. They use a needle and thread to find ways that more than one piece of fabric can be sewn together.	• Fabrics have observable properties. • Fabrics are made from different materials. • Fabrics can be compared and sorted by their properties. • Fabric is used for many things in our everyday lives. • Many fabrics are made by weaving threads together. • Sewing is a process that weaves thread through more than one piece of fabric to join them. • Scientists communicate problems, designs, and solutions.	• Observe properties of several different fabrics. • Observe how fabric is put together and how it can be taken apart. • Communicate observations and comparisons of different kinds of fabric. • Compare the properties of different fabrics.
2. FABRIC INTERACTIONS Students conduct several investigations to find out how fabrics interact with other materials. They put drops of water on fabrics to see which absorb water and which repel it. They put several kinds of stains on a piece of cloth, then attempt to wash the stains out, first with water alone, then with detergent and a scrub brush. They use food coloring to dye a piece of fabric. Students make graphs that show the kinds of fabric they would use to make pants and other items.	• Some fabrics absorb water, and others repel it. • Fabrics can be compared by their properties. • Some fabric stains can be cleaned by washing. • Cleaning fabric with soap and a scrub brush is better than using water only. • Fabric can be permanently dyed a wide variety of colors. • Different properties of fabrics make them useful for different purposes. • Scientists communicate problems, designs, and solutions.	• Observe how water is absorbed at different rates by different kinds of fabric. • Compare evaporation of water in an open and closed container. • Observe the transformation of dirty cloth to clean cloth. • Communicate observations and comparisons of interactions. • Compare the permanence of a variety of stains. • Compare the properties of fabrics to determine their best uses.

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INTERDISCIPLINARY EXTENSIONS	READING CONNECTIONS	HOME/SCHOOL CONNECTION
• Communicate through science journals. • Make word and fabric cards. • Count seams. • Count pockets and make graphs. • Set up an ongoing fabric center. • Show how knit fabric is made.	• *FOSS Science Stories: Fabric,* "What Is Fabric Made From?" • *A New Coat for Anna* by Harriet Ziefert and Anita Lobel (illustrator)	Families play "I'm thinking of a fabric and it is ..." Students make lists and drawings of four things at home that are made of fabric.
• Communicate through science journals. • Make a class book based on *The Emperor's New Clothes.* • Make colorful caps. • Make small pattern quilts. • Simulate yarn-dye and piece-dye techniques. • Make a quilt. • Make a tooth-fairy pillow. • Tie-dye T-shirts. • Try a modified batik. • Mix colors. • Take a field trip.	• *FOSS Science Stories: Fabric,* "How Are Fabrics Used?" • *Harry the Dirty Dog* by Gene Zion and Margaret Bloy Graham (illustrator)	A paper cup becomes a simple circular loom. Parents cut slits in the sides, and students weave string or yarn through the slits, to make a decorative pencil holder.

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FOSS AND NATIONAL STANDARDS

The **Fabric Module** emphasizes the development of observation and description skills and building explanations based on experience. This module supports the following National Science Education Standards.

SCIENCE AS INQUIRY

Develop students' abilities to do and understand scientific inquiry.

- Ask and answer questions.
- Plan and conduct simple investigations.
- Communicate investigations and explanations.

CONTENT: PHYSICAL SCIENCE

Develop students' understanding of objects and materials.

- Objects have many observable properties, including size, shape, weight, color, and the ability to react with other substances.
- Objects can be made from one or more materials, such as wool or cotton. Objects can be described and sorted by the properties of materials from which they are made.

SCIENCE AND TECHNOLOGY

Develop students' abilities in technological design.

- Identify a simple problem and propose a solution.
- Communicate a problem, design, or solution.

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