Let’s Learn About
WOOD & FABRIC

Quick View

What Ways Are Wood and Fabric Used Together to Make Useful Items?
These activities draw upon prior lessons with wood and add fabric to discover how those separate materials are combined to make new, useful items we see every day.

Materials
Variety of wood and fabric pieces, cloth doll, stuffed animals or other toys, wood art poseable figure, couch, chair, hammock, window blinds, dowel rods, rubber bands, traditional wooden clothespins, tape, fabric, elastics, embroidery floss or yarn, bows, ties, glue, markers, wood beads and yarn or cord to string.

A more detailed list can be found on Page 2.

Standards
NCECDTL, ELOF: Goal IT-ALT 3, 4, 5, 6,7,8,9; Goal P-ATL 6, 7, 8, 9, 10, 11, 12, 13; Goal P-LC 1, 2, 3, 4, 5, 6, 7; Goal P-LIT 4, 5; Goal IT-C 1, 2, 3, 5, 6, 7, 9, 10, 12; Goal P-MATH 7, 8, 10; Goal P-SCI 1, 2, 4, 5, 6; Goal IT-PMP 1, 2, 3, 4, 5, 6, 7, 8; Goal P-PMP 2, 3; MI Standards SS 1, 3.

Model i Innovation Learning Framework
Throughout this lesson, there will be opportunities to bring in Model i’s Habits of an Innovator and Actions of Innovation.

More information on Model i can be found at: thf.org/education/teaching-innovation/modeli

Lesson Overview

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<td>Explore the classroom to investigate objects made of wood and fabric.</td>
<td>Build wood and fabric tents.</td>
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<td>Explore how wood and fabrics are used.</td>
<td>Create a clothespin doll.</td>
<td>String wooden beads on cords or shoe strings to create necklaces or bracelets.</td>
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<td>Show pictures of the Gilkie camper, the Grecian couch and the Wright Flyer.</td>
<td>Read stories related to the learning: The Play Tent of Imagination by Sarah Jagger, Helping the Wright Brothers: A Tale of First Flight Helpers by Suzanne Tate</td>
<td>Explain the story of and use the clip to show the Wright brothers’ first flights.</td>
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<td>Stay Curious, Collaborate, Uncover</td>
<td>Invite a parent or other special guest who works with wood or trees, or who sews, to share their knowledge.</td>
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Materials

Explore
Activity — Touch Exploration
- Teachers should provide as many examples of wood and fabric objects as possible for touch exploration

Discover
Activity — What Do We Have That Is Made of Both?
- Cloth doll, stuffed animals or other toys
- Wood art poseable figure (artist model type)
- Couch, chair, director’s chair, hammock
- Window blinds

Create
Project One — Tents
- 4 dowel rods, approximately 36 inches long
- 2 strong rubber bands
- 1 twin-size bedsheets or piece of material of similar length and width

Create
Project Two — Clothespin Dolls
- Scissors
- Glue
- Wooden clothespins, traditional style
- Black fine-tip marker
- Variety of colored markers
- Cloth or Washi tape
- Embroidery floss
- Yarn scraps for hair
- Fabric scraps
- Various colors of small hair elastics or rubber bands

Create
Project Three — String Beads
- Yarn or other string/cord, various colors
- Wooden beads, various sizes and colors, with center holes large enough to accommodate yarn, string/cord
- Containers for each size of bead
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Lesson Guide

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How Are Wood and Fabric Used?

• What things are made of wood, and what things are made of fabric? (Answers should include chairs, stools, ladders, clothes, curtains, blankets, etc.)
• Why would you combine the two materials?
• What would be reasons to make things with both wood and fabric?

Teachers can show students pictures of the Gilkie camper, the Grecian couch and the Wright Flyer.

Activity

Touch Exploration

Provide a variety of wood and fabric pieces for students to feel, describe, compare. Which one is sturdy? Flexible? Harder? Softer? Draw on previous lessons/experiences with each of these materials.

Model i Innovation Learning Framework

Stay Curious, Collaborate, Uncover

• Ask questions like what, why, how.
• Talk about helping, working together.
• What do you see (characteristics, properties)? What problems does this material help us solve?

Links and photos for this section are on Pages 5-10.
Let’s Learn About WOOD & FABRIC INNOVATION LEARNING

Explore — Links

Gilkie Tent Trailer, 1927

thf.org/collections-and-research/digital-collections/artifact/275379
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Explore — Links

Gilkie Tent Trailer, 1927
thf.org/collections-and-research/digital-collections/artifact/275379#slide=gs-214659
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Grecian Couch and Daybed, Possibly Made by Duncan Phyfe, 1810-1840

thf.org/collections-and-research/digital-collections/artifact/55959
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1903 Wright Flyer, Replica, 2003
thf.org/collections-and-research/digital-collections/artifact/334982
Let's Learn About WOOD & FABRIC INNOVATION LEARNING

Explore — Links

1903 Wright Flyer, First Flight

thf.org/collections-and-research/digital-collections/artifact/197385
Let’s Learn About
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Explore — Links

Orville Wright Preparing for Demonstration Flight, Fort Myer, Virginia, September 1908
thf.org/collections-and-research/digital-collections/artifact/379521
Let’s Learn About
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Activity
What Do We Have That Is Made of Both?

• Explore the classroom to investigate objects made of wood and fabric.
• Ask students if they can think of items at home that are made of wood and fabric.

Material Ideas

• Cloth doll, stuffed animals or other toys
• Wood art poseable figure (artist model type)
• Couch, chair, director’s chair, hammock
• Window blinds

Model i Innovation Learning Framework

Stay Curious, Collaborate, Uncover

• Ask questions like what, why, how.
• Talk about helping, working together.
• What do you see (characteristics, properties)? What problems does this material help us solve?
Let’s Learn About
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Artifact of the Day

What Is the Wright Flyer?
Explain the story of and use the clip to show the Wright brothers’ first flights.
youtube.com/watch?v=-kjRL-Q-KBc

Refer to the photographs from the Explore section to talk more about what can happen when you combine materials and keep trying.

Additional Presentation
Invite a parent or other special guest who works with wood or trees, or who sews, to share their knowledge.

Links and photos for this section are on Pages 8-10 and 13.

Model i Innovation Learning Framework
Stay Curious, Be Empathetic, Learn from Failure

• Ask questions like what, why, how.
• How do you think the Wright brothers felt when their airplane flew/didn’t fly? What did they do?
• Talk about “trying again,” what’s another way to...
Let’s Learn About
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INNOVATION

Artifact of the Day — Links

Wright Brothers First Flight, 1903
youtube.com/watch?v=-kjRL-Q-KBc
Let’s Learn About

WOOD & FABRIC

Create — What Can We Build with Wood and Fabric?

**Project 1: Tents**

Build wood and fabric tents by attaching wood dowels together with rubber bands and covering with sheets. Students can explore the tents inside and out.

**Materials**

- 4 dowel rods, approximately 36 inches long
- 2 strong rubber bands
- 1 twin-size bedsheet or piece of material of similar length and width

**Instructions**

1. Position the 4 dowel rods to create a cone shape with all 4 coming together at the top. Use 1 rubber band to hold dowels together.

2. Wrap sheet or material around the outside of the dowels. Secure top edge of sheet with second rubber band at the same position as the first band.

3. Fold back any excess material to create the tent entrance.

**Model i Innovation Learning Framework**

**Design, Learn from Failure**

- Talk about “trying again,” what’s another way to...
- Make, build and create.
Let’s Learn About WOOD & FABRIC
Create — What Can We Make with Wood and Fabric?

Project 2: Clothespin Dolls
Create a fun toy using wood and fabric, such as a clothespin doll.

Materials
- Wooden clothespins, traditional style
- Black fine-tip marker
- Variety of colored markers
- Cloth or Washi tape
- Embroidery floss
- Yarn scraps for hair
- Fabric scraps
- Various colors of small hair elastics or rubber bands
- Scissors
- Glue

Instructions
1. Use fine-point black marker to create doll face on clothespin head.
2. Give tots markers to decorate body of clothespin doll.
3. Students can also use embroidery floss, yarn or Washi tape and small elastics to wrap around clothespin for clothing.
4. Cut fabric scraps into 3-inch strips for clothing. Extra cloth can be trimmed.
5. Glue scraps to dolls for clothing.
6. Cut yarn or floss into desired lengths to add to clothespin for hair.

Learning Framework
Design, Learn from Failure
- Talk about “trying again,” what’s another way to...
- Make, build and create.

Model i Innovation
Let’s Learn About
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Create — What Can We Make with Wood and Fabric?

Project 3: String Beads
If available in the classroom, students can string wooden beads on cords or shoestrings to create necklaces or bracelets. Projects like these can be done multiple times and can be used to reinforce mathematical concepts such as patterns and counting.

Materials

- Yarn or other string/cord, various colors
- Wooden beads, various sizes and colors, with center holes large enough to accommodate yarn, string/cord
- Containers for each size of bead

Instructions

1. Allow students to choose their color of yarn or string/cord.
2. Allow students to choose various sizes and colors of beads.
3. Assist students in threading their cord through their beads. Cords can be tied into necklaces or bracelets if desired or left open to be used again.

Model i Innovation Learning Framework

Design, Learn from Failure

- Talk about “trying again,” what’s another way to...
- Make, build and create.
Let’s Learn About
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Inspiring Stories

Read Stories to Inspire Your Students

The Play Tent of Imagination
by Sarah Jagger

Helping the Wright Brothers:
A Tale of First Flight Helpers
by Suzanne Tate

Model i Innovation Learning Framework

Be Empathetic

• How did the characters in the stories feel?
  How might the story make others feel?
Ask Students Specific and Open-Ended Questions

• Tell me what happened in the story today.
• Tell me about the Wright brothers’ airplane.
• How might you be like the Wright brothers?
• What kinds of things do we see and use every day that are made with wood and fabric?

Model i Innovation Learning Framework

Stay Curious, Collaborate

• Ask questions like what, why, how.
• Talk about helping, working together.

Family Connection

Send the worksheet on Page 19 home with students to be completed at the end of the lesson.

Coloring Sheet

Have students color the picture on Page 20 as a part of the lesson, or send it home to be colored.
Let’s Learn About WOOD & FABRIC

Review & Extend — Family Connection

Take the Learning Home

We are learning wood and fabric as they are combined to make many items we use every day.

Please take your student on a scavenger hunt through your home and neighborhood to see what wood and fabric items you can find. What are some of these things? Have them draw what they find.

These are some of the stories related to our learning. You might enjoy reading them with your student.

What Do You Do with an Idea? by Kobi Yamada

Tents, Tigers and the Ringling Brothers (Badger Biographies series) by Jerry Apps

Peppa Pig and the Camping Trip by Candlewick Press
Let’s Learn About
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Coloring Sheet

The Wright Flyer