



Let's Learn About **WOOD**



Quick View

What Are the Characteristics of Wood? How Do They Affect What Things Can Be Made with Wood?

Wood is flexible yet sturdy, strong but easy to shape with simple tools or machines, making it a great material for early airplanes as well as cars, boats, homes and furniture.

Materials

Wood blocks of different types, craft sticks, spring clothespins, glue, crayons, googly eyes, glitter, spray adhesive (optional), twigs, paper.
Optional: Contact Arbor Day Foundation or U.S. Forest Service for saplings.

A more detailed list can be found on Page 2.

Standards

NCECDL, 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

STEAM			ELA/LIT	SS/HST	
Explore	Discover	Create	Inspiring Stories	Artifact of the Day	Review & Extend
<p>Compare and contrast the many ways wood is put together to make furniture around your classroom.</p> <p>Show pictures of the stagecoach, caboose, and Blue Bird school bus to show how wood was used to make vehicle bodies.</p>  <p>Stay Curious, Uncover</p>	<p>Wood can be cut or molded into many shapes and sizes, making it a good building material.</p> <p>How tall can students build with different types of wooden blocks? (Math activity)</p> <p>Explore how some wood floats.</p>  <p>Stay Curious, Design, Collaborate, Uncover, Learn from Failure</p>	<p>Plant a tree.</p> <p>Make a clothespin dragonfly.</p> <p>Make twig letters or shapes.</p>  <p>Design, Learn from Failure</p>	<p>Read stories related to the learning: <i>Iggy Peck, Architect</i> and <i>Rosie Revere, Engineer</i> by Andrea Beaty, and <i>If I Ran the Rain Forest (Cat in the Hat's Learning Library)</i> by Bonnie Worth.</p>  <p>Collaborate, Be Empathetic</p>	<p>Show students the rustic Rocking Chair owned by Cornelius Vanderbilt made of grapevines and oak and the smooth Eames Lounge Chair made with molded plywood.</p> <p>Which do they like better?</p> <p>Tell each other why.</p>  <p>Stay Curious, Be Empathetic</p>	<p>Ask students specific and open-ended questions.</p> <p>Family Connection worksheet to send home.</p> <p>Coloring sheet to send home or work on in class.</p>  <p>Stay Curious, Collaborate</p>



Let's Learn About **WOOD**



Materials

Explore

Activity — Touch Exploration (Outside)

- Trees of different varieties
- Teachers can provide as many examples of wood as possible for touch exploration.

Discover

Activity — How Tall Can It Be?

- Wood blocks

Activity — Does Wood Float?

- Different types of wood: hardwoods such as oak, ash, hickory, birch, beech, maple, cherry and softwoods such as pine, fir, spruce and cedar
- Water and container for testing

Create

Project One — Plant a Tree

- The U.S. Forest Service or Arbor Day Foundation may supply saplings for students to take home.

Create

Project Two — Make a Dragonfly

- 2 craft sticks per dragonfly
- Spring clothespin or regular clothespin with two flat sides
- Glue
- Crayons or markers
- Glitter and spray adhesive (optional)
- Googly eyes (optional)

Create

Project Three — Make Twig Letters

- Construction paper
- Twigs, broken into approximately 2-inch lengths
- Glue



Let's Learn About **WOOD**



Lesson Guide

Explore



Stay Curious, Uncover
Where Does Wood Come From?
How Versatile Is Wood? Page 4
Activity: Touch Exploration Page 4
Links & Photos Pages 5-10

Inspiring Stories



Collaborate, Be Empathetic
Read Stories to Inspire
Your Students Page 18

Discover



Stay Curious, Collaborate, Uncover,
Design, Learn from Failure
Activities: How Tall Can It Be?
Does Wood Float? Page 11

Review & Extend



Stay Curious, Collaborate
Ask Students Specific and
Open-Ended Questions Page 19
Family Connection Page 20
Coloring Sheet Page 21

Artifact of the Day



Stay Curious, Be Empathetic
Rocking Chair Owned
by Cornelius Vanderbilt/
Eames Lounge Chair Page 12
Links & Photos Pages 13-14

Create



Design, Learn from Failure
Can We Make More Wood?
Project 1: Plant a Tree Page 15
What Can We Make with Wood?
Project 2: Make a Dragonfly Page 16
Project 3: Make Twig Letters Page 17



Let's Learn About **WOOD**



Explore

Where Does Wood Come From?

Nature supplies the trees that allow our imaginations to climb. Ask students if they have ever climbed a tree.

Wood comes from a wide variety of trees. Let's explore different kinds and tinker with wood today.

How Versatile Is Wood?

Wood has been used to make furniture for centuries. It's the way we make it that can be endlessly creative.

Compare and contrast the many ways wood is put together to make furniture around your classroom. How is it shaped differently between a chair and a stool or a bookcase and a table? What furniture needs strong wood to make it?

Using the following pages, teachers can show students pictures of the **Blue Bird school bus**, **caboose** and **stagecoach** to show how wood was used to make vehicle bodies.

Wood has also been a favorite material for houses. Teachers can also show students wooden houses such as, **Sarah Jordan** and **George Washington Carver's** from The Henry Ford's collections. What are their houses made of?

Activity

Touch Exploration — Outside

- Feel trees with different types of bark; note different leaves/needles.

Links and photos for this section are on Pages 5-10.

Model i Innovation Learning Framework

Stay Curious, Uncover

- Ask questions like what, why, how.
- What do you see (characteristics, properties)?
What problems does this material help us solve?





Let's Learn About **WOOD**



Explore — Links

Blue Bird School Bus, 1927, Oldest Surviving School Bus in America

thf.org/collections-and-research/digital-collections/artifact/357533





Let's Learn About **WOOD**



Explore — Links

Blue Bird School Bus, 1927, Oldest Surviving School Bus in America

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Explore — Links

Detroit, Toledo and Ironton Caboose, 1925

thf.org/collections-and-research/digital-collections/artifact/193930





Let's Learn About **WOOD**



Explore — Links

Abbot Downing Concord Coach, 1891

thf.org/collections-and-research/digital-collections/artifact/237451





Let's Learn About **WOOD**



Explore — Links

Sarah Jordan Boarding House

thf.org/collections-and-research/digital-collections/artifact/258254#slide=gs-213859





Let's Learn About **WOOD**



Explore — Links

George Washington Carver Cabin

thf.org/collections-and-research/digital-collections/artifact/136736





Let's Learn About **WOOD**



Discover

Activities

How Tall Can It Be?

Wood can be cut or molded into many shapes and sizes, making it a good building material. Let's see how tall students can build with different types of wooden blocks. Students can experiment with different ways to build a tower.

- Which is most sturdy?
- Which design fell easily?

Math Activity: Have students count the number of blocks they build with and have them identify the geometric shapes of the blocks (square, rectangle, etc.).

Does Wood Float?

Explore different types of wood by testing if they float.

- Which is best for building boats?

Materials

- Wooden blocks
- Different types of wood: hardwoods such as oak, ash, hickory, birch, beech, maple, cherry and softwoods such as pine, fir, spruce and cedar
- Water and container for testing

Model i Innovation Learning Framework

Stay Curious, Collaborate, Uncover, Design, Learn from Failure

- 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?
- Make, build and create.
- Talk about "trying again," what's another way to...





Let's Learn About **WOOD**



Artifact of the Day

Rocking Chair Owned by Cornelius Vanderbilt and Eames Lounge Chair

Teachers can show students the rustic **Rocking Chair owned by Cornelius Vanderbilt** made of grapevines and oak and the smooth **Eames Lounge Chair** made with molded plywood. Which do they like better? Tell each other why.

Additional Presentation

Teachers can also invite special guests who work with wood to visit: woodworker, carpenter, craftsperson, lumberman, landscaper.

Links and photos for this section are on Pages 13-14.

Model i Innovation Learning Framework

Stay Curious, Be Empathetic

- Ask questions like what, why, how.
- How did the characters in the stories feel? How might it make others feel?





Let's Learn About **WOOD**



Artifact of the Day — Links

Rocking Chair, Owned By Cornelius Vanderbilt, 1865-75

thf.org/collections-and-research/digital-collections/artifact/256290





Let's Learn About **WOOD**



Artifact of the Day — Links

Eames Lounge Chair and Ottoman, introduced in 1956

thf.org/collections-and-research/digital-collections/artifact/148518





Let's Learn About **WOOD**



Create — Can We Make More Wood?

Project 1: Plant a Tree

Trees are a renewable resource; explain to students that we can replace trees for future use. If possible, students could plant a tree outside or in a pot in their classroom. The U.S. Forest Service or Arbor Day Foundation may supply saplings for students to take home.

Model i Innovation Learning Framework

Design, Learn from Failure

- Make, build and create.
- Talk about “trying again,” what’s another way to...





Let's Learn About **WOOD**

Create — What Can We Make with Wood?

Project 2: Make a Dragonfly

A spring clothespin forms the body and two small craft sticks, crossed, make the wings. Students can color or otherwise decorate, and adults can assist with gluing wings into an X and then to body.

Materials

- 2 craft sticks per dragonfly
- Spring clothespin or regular clothespin with two flat sides
- Glue
- Crayons or markers
- Glitter (optional) and spray adhesive
- Googly eyes (optional)

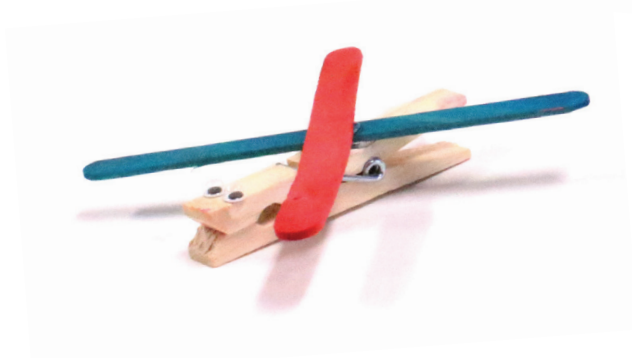
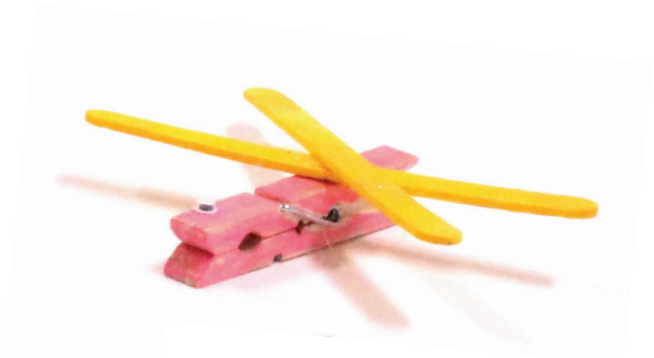
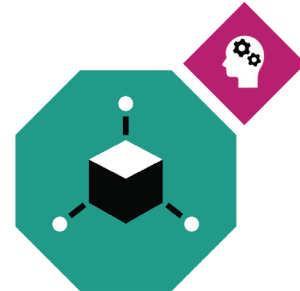
Instructions

1. Glue two craft sticks to form an X.
2. Allow students to decorate a spring clothespin/regular clothespin (with flat side) and the crossed craft sticks.
3. Glue crossed craft sticks to the spring clothespin, just below the metal. If using regular clothespin, glue at the top of the slit on a flat side.
4. Optional: Mist the dragonfly body with spray adhesive and sprinkle with glitter.
5. Glue googly eyes to the clip end of the clothespin on the top of the dragonfly.

Model i Innovation Learning Framework

Design, Learn from Failure

- Make, build and create.
- Talk about “trying again,” what’s another way to...





Let's Learn About **WOOD**

Create — What Can We Make with Wood?

Project 3: Make Twig Letters

If enough are available, twigs broken into approximately 2-inch lengths can be arranged into the first letter of each tot's name. Adult assistance needed with gluing onto a paper background.

Materials

- Construction paper
- Twigs, broken into approximately 2-inch lengths
- Glue

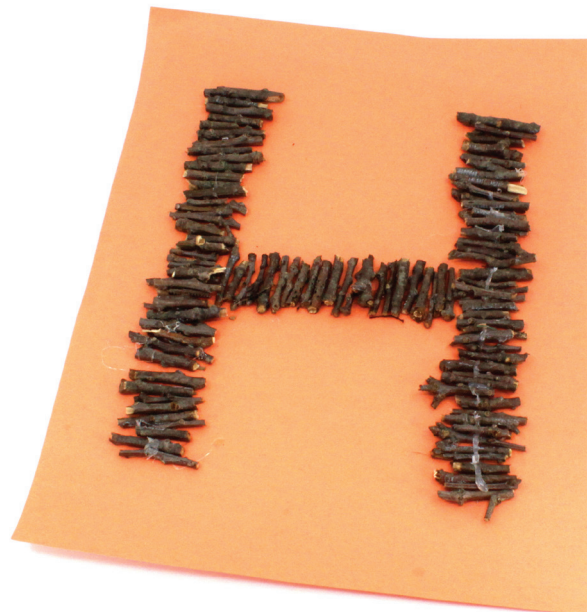
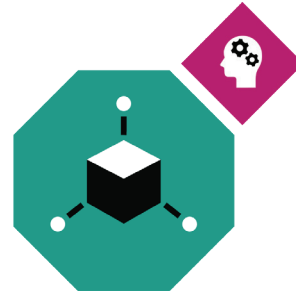
Instructions

1. Give each student several twigs and a piece of construction paper.
2. Apply glue in shape of their letter on their construction paper.
3. Assist students in forming the first letter of their name with their twigs on the glue on the construction paper.

Model i Innovation Learning Framework

Design, Learn from Failure

- Make, build and create.
- Talk about "trying again," what's another way to...

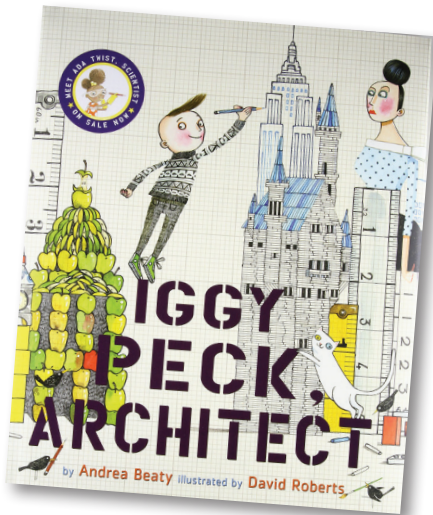




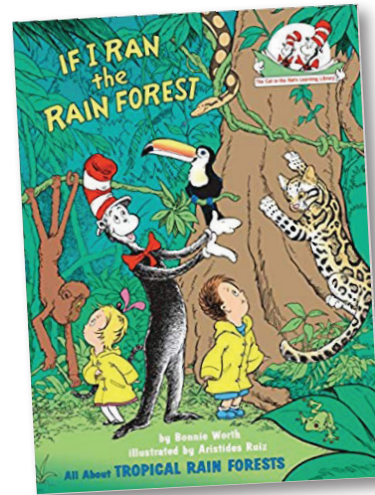
Let's Learn About **WOOD**

Inspiring Stories

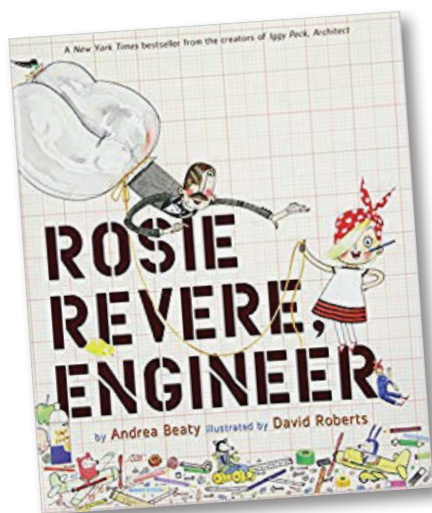
Read Stories to Inspire Your Students



Iggy Peck, Architect
by Andrea Beaty



If I Ran the Rain Forest
(Cat in the Hat's Learning Library)
by Bonnie Worth

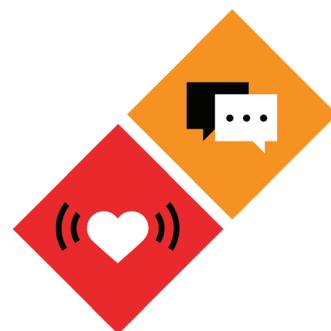


Rosie Revere, Engineer
by Andrea Beaty

Model i Innovation Learning Framework

Collaborate, Be Empathetic

- Talk about helping, working together.
- How did the characters in the stories feel?
How might the stories make others feel?





Let's Learn About **WOOD**



Review & Extend

Ask Students Specific and Open-Ended Questions

- What do you think is the best thing about wood?
- What would you like to make with wood?
- What do you have at your house that is made of wood?

Family Connection

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

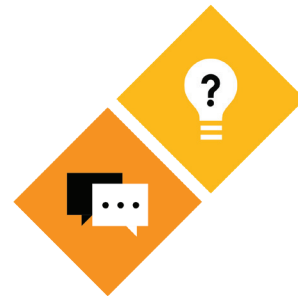
Coloring Sheet

Have students color the picture on Page 20 as a part of the lesson, or send it home to be colored.

Model i Innovation Learning Framework

Stay Curious, Collaborate

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





Let's Learn About **WOOD**



Review & Extend — Family Connection

Take the Learning Home

We are learning about **wood** and the way it is used in many items we use every day.

Please take your student on an **"I Spy" adventure** through your home and neighborhood to see what items or structures are made with wood.

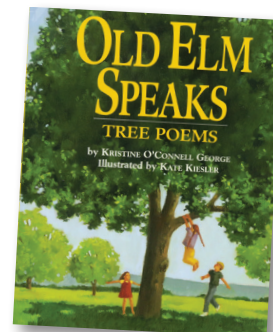
What are some of these things? Have them draw what they find.



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



*The Tree Lady: The True Story of
How One Tree-Loving Woman Changed a City Forever*
by H. Joseph Hopkins



Old Elm Speaks: Tree Poems
by Kristine O'Connell George



Let's Learn About **WOOD**



Coloring Sheet

Detroit, Toledo and Ironton Caboose, 1925

