

What kind of wood is it?

Activity



CURRICULUM CONNECTIONS

Science

LEARNER OBJECTIVES

- Identify types of trees by examining and describing samples of wood.

MATERIALS NEEDED

Wood samples (enclosed), magnifying glass.

PREPARATION TIME

5 minutes

ACTIVITY TIME

30 minutes

Overview

Identifying wood can be easy if you know what to look for. The best way is to evaluate the specimen's structure. This can be done by looking at the end of one of the enclosed sample blocks.

Because cells and fibers of wood are quite small, you may need a magnifying glass.

Background

Hardwood vs. Softwood

Hardwood refers to broadleaf trees, most of which are deciduous. That means they lose their leaves in the winter. Hardwoods are also called porous woods, meaning they have randomly arranged cells of fibers and vessels. Fibers are strong, thick wall cells which add strength to the wood. Vessels move liquids through the tree. Fibers can be compared to the human skeleton, while vessels are similar to human blood vessels.

Softwoods are needle-bearing trees called conifers. They are considered non-porous because they lack vessels or pores. Softwood cells are very small, rectangular openings, difficult to see even with a magnifying glass. Their purpose is the same as those in hardwoods, although arranged in a uniform manner and size.

Another sample you'll find in this kit is Oriented Strand Board (OSB), an engineered structural panel used in home and business construction. It is made by taking thin wood strands and orienting them in layers, then bonding them with resins

under intense heat and pressure, and cutting them to individual panel sizes. OSB is made only from smaller, fast-growing tree species grown in sustainable forests and tree farms, rather than larger trees from old-growth forests.

The Activity

1. Distribute the enclosed wood samples to your class.
2. After explaining the differences between softwood and hardwood trees, have the students examine the samples with a magnifying glass. Have the students examine vessels and pores to look for unique patterns that will determine whether it is a hardwood or softwood. (Each wood sample is coded with your Tree Identification Poster for a visual reference of each tree.)
3. Have the students describe the texture, the grain, the hardness or softness, the color, and the weight of each sample.
4. Have the students compare their descriptions of the samples with the descriptions in the "Trees of Minnesota" section of this Guide.
5. Using the enclosed sample of Oriented Strand Board (OSB), have the students try to count the layers of thin wood strands used in making this kind of product. Have them explain why they think this type of material would be stronger than conventional wood for building construction purposes.