



Goods From the Woods Lesson Plan-General Presentation

Overview: Every part of a tree can be used to make something. From wood to extracts from leaves, roots and bark comes more than 5,000 products. In this class students will gain an appreciation of the value of trees and understand just how much we depend on trees in our daily lives.

Materials Needed:

Goods From the Wood Box

Optional-Products Cards- Can be downloaded on www.ncforestry.org/teachers

Time Needed:

- 30-45 Minutes

Background

North Carolina's forests are among the state's most valuable natural resource. With 61% of our state covered in forested areas, we look to our trees for social, environmental and economic benefits. Beyond these benefits, forests can provide a variety of ecosystem services; like clean air, clean water, healthy soil, cooling shade, habitat for wildlife, and climate regulation.

Trees are renewable resource, meaning it can be replaced or replenished after it is used. Unlike other major building materials like steel and concrete, we can replant and replace trees. The forest products industry in North Carolina is responsible for making over 5,000 products that we use every day. Lumber, cardboard boxes, paper, sports equipment, medicines, and even cosmetics all have one thing in common-wood!

Forestry plays a major role in North Carolina. Known as the birthplace of modern forest management, our state is responsible for bringing sustainable forestry practices to our country. The Biltmore School of Forestry began in Asheville, NC and served as the first forestry school in the country. Now, over 100 years later, we are the "First in Forestry" state, and continue to be at the forefront of creating a sustainable forestry model that allows our forests to stay healthy and productive for the future.



Doing the Activity

Introduction (10 Minutes)

For Professionals- Introduce yourself, your job and the company/organization where you work

Welcome! Quick question, what did you use today that was made from wood? (Wait for responses from students) Did you know there are over 5000 wood products that come from our woods? Imagine what it would be like to go through a day without a forest product. Not only would you not have a house to live in, but also your car would not have a steering wheel! You would not have orange juice for breakfast or a desk and pencil at school. You would not have a bat for baseball practice or some musical instruments. Wood products play a vital role in our lives, and with proper stewardship and management, our forests will continue to provide all of these benefits for generations to come.

Review Background Information

Goods from the Woods Box (10 Minutes)

Today we are going to learn about our Goods From the Woods and the important connection we have to our natural resources through a series of games and activities. Today, forest products is the top manufacturing industry in North Carolina. Hundreds of wood products are used in the construction or furnishing of homes. Extracts from roots, bark and leaves are derived from all parts of a tree. For example, cellulose is a major component of wood and provides the plant with rigidity and support. Without cellulose, we would not have the variety of paper and paper products. It can also be mixed with other chemicals to make fabrics, shampoo and molded plastics!

Using your Goods From the Woods Box. Ask students to vote on which objects are made from wood.

Hold up one product at a time. Ask students (yes/no) if this object is made with wood. Be sure they understand that you are not talking about the packaging of the product but the product itself or some component of the product. After each vote, explain that the item did come from a tree and provide the information from the Goods from the Woods Insert sheet.

TIP: Keep explanation of products generalized. Refrain from discussing what part of the tree is used, as the following activity will review this information.

Where does it come from? (Choose one Activity (10-15 minutes))

Now that we know that there are over 5000 wood products, do you know which parts of the tree these items come from? Before we discover the answers, let us review the parts of the tree. Who can tell me the different parts of a tree? (Wait for responses) Review any parts not discussed.



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Each part of the tree can make many products and no part of the tree is wasted. Let us return to our Goods From the Woods Box and learn which part of the tree is used to make these different items.

ACTIVITY 1: (best for older students and limited time)

Using the Goods from the Woods Product Cards (*print off the cards from www.ncforestry.org*), have sorted the items into a yes and no pile, distribute the product ID cards to volunteer readers. Have students read aloud the cards with wood products information. Students will begin to understand that all items contain wood.

ACTIVITY 2: (best for younger students and longer time)

Hold up one product at a time. Ask students what part of the tree this product is made from. Do not give pointers. Have the sort objects into the following piles; Fruits and Nuts, Bark, Trunk, Leaves, Gums, Branches and Roots (print off the parts of the tree cards from www.ncforestry.org). Be sure they understand that you are not talking about the packaging of the product but the product itself or some component of the product.

Once sorted, read aloud the information on the back of the parts of the tree card. As you read, encourage students to think about where they sorted the items. Is there a better place to re-sort the object?

Fruits and Nuts

The fruits, nuts, berries and seeds of many trees are an important source of food for wildlife and people. Some of the most common of these are apples, peaches, pecans, walnuts, coffee, and spices such as mace and nutmeg.

Bark

Bark is used for a variety of purposes ranging from **medicine** to garden mulch to seasoning for foods. The willow tree, for example, provides the essential elements of aspirin, while the laurel tree provides cinnamon used to flavor many foods. Cork for wine bottles and fishing tackle comes from the cork oak tree. Bark also is burned to produce energy and used as a dye for fabrics, shoe polishes and other products.

Trunk

The trunks of trees are primarily used to make **solid wood products** such as furniture, musical instruments, lumber, and handles for tools and sporting equipment. Trunks also are peeled into thin sheets and used as veneer for plywood and furniture.

Leaves

While growing on a tree, leaves produce oxygen, help filter pollutants from the air, provide shelter for



many wildlife species and shade to help keep us cool. When harvested, leaves of the carnauba tree are used to produce **furniture polish, car wax, crayons, lipstick and the coating on many medicine tablets**. Whole leaves from other trees such as bay, are used in cooking, while the oils of leaves such as the eucalyptus are extracted for fragrances and flavorings.

Gums

Gums, which are found in the sap of trees, are used in the manufacture of a variety of products including **food, adhesives, paints and medicines**. In foods, gums serve as **thickening agents, provide a creamy texture, act as binders to keep ingredients from separating and help retain moisture**. In ice cream and other frozen desserts, gums prevent the formation of crystals. The gums of some trees are used to make adhesives **such as glue and hair spray, and act as drying agents in paint and printing ink**. Other gums have antiseptic properties and are used in making soaps and cough syrups.

Branches

The branches of large trees and the trunks of smaller trees are used to make thousands of paper products, **including writing paper, tissues and boxes**. Chemical by-products of the paper-making process are used in producing cleaning compounds, **skin lotions, artificial vanilla flavoring, photographic film and many molded plastic products such as eyeglass frames, football helmets, toothbrushes and buttons**.

Roots

In addition to providing food for the tree, roots play an important role in keeping our waters free of pollutants. They stabilize the soil to prevent erosion and sedimentation, and by absorbing nutrients to feed the tree, they prevent these nutrients from entering our rivers and streams.

Stumps

Pine stumps provide the wood rosin and liquid terpenes used in making many products, including orange **flavored soft drinks, pine cleaners and laundry detergents**. Hardwood stumps readily produce sprouts that grow into new trees, assuring that we have plentiful hardwood forests for the future.

Review:

For Professionals- Thank the class/group/teachers for inviting you to speak.

As a review, who can answer the following?

1. How many products come from wood?
2. How can you recycle/reduce/reuse wood products?



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3. Are trees renewable?

Careers Highlight

Forest Historian
Manufacturers working in the forest products industry
Foresters working in a manufacturing company
Provide additional careers that use this information.

Contact NCF

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