

TREES TO PAPER

Lesson By: Mace Leonard

Grade Level: 3

Adapted From:

[<http://ecosystems.psu.edu/youth/sftrc/from-woods/incredible>]

[<http://ecosystems.psu.edu/youth/sftrc/from-woods/paper>]

[http://www.solidwastedistrict.com/lessons/making_paper.html]

Focus:

This lesson will teach students about the products that come from trees, how paper is made and renewable resources.

Objectives:

1. Students will name at least three products that come from trees.
2. Students will describe what life would be like without wood products.
3. Students will be able to explain the statement “Wood is a renewable resource.”
4. Students will be able to recycle paper on their own.

Standards:

SCI 3.2.5 2010

Construct something used for performing a task out of paper, cardboard, wood, plastic, metal, or existing objects.

SCI 3.2.6 2010

Describe how the properties of earth materials make them useful to humans in different ways. Describe ways that humans have altered these resources to meet their needs for survival.

Background:

Natural Resources are things that we find in nature all the time and make-up the world around us. They are the air we breathe, the soil we walk on, the water we drink, the plants we enjoy, the wind that blows, the animal life surrounding us and the sun that warms our world.

Natural resources are either renewable or non-renewable. Non-renewable natural resources are listed as: fossil fuels, oil, coal, copper, diamonds, natural gas, iron ore, minerals, gold, silver, platinum, rocks, and many more. Once non-renewable resources are removed it will take a very, very long time, if ever, to replace them. We certainly will not see it again in our lifetime or that of the next generation. Renewable resources, on the other hand, can be replaced in a relatively short period of time or used through conservation efforts without depleting the resource. We consider renewable natural resources to be: animals, insects, reptiles, plants, trees, water, grass, solar and wind energy.

For more background information on wood and paper for this lesson, read the “Incredible Wood” booklet (<http://pubs.cas.psu.edu/freepubs/pdfs/uh156.pdf>) and the “Paper!” booklet (<http://pubs.cas.psu.edu/freepubs/pdfs/uh153.pdf>) before starting the lesson.

Materials:

1. "Incredible Wood" Booklet
2. "Paper!" Booklet
3. Scraps of Paper
4. Water
5. Blender
6. Large bowl
7. Spatula
8. Window screening stretched and stapled to a 2 foot x 2 foot wooden frame

Procedures: (60 Minutes Total)**Part 1 [20 Minutes]**

1. A good way to start this lesson and to get the kids energized and thinking about the natural world around them is to incorporate the tree walk at Camp Adventure. Depending on time, the walk could incorporate the whole trail or just a portion of it. Students could take notebooks with them to write down products made from trees. If there is not much time go to the education center and ask students to brainstorm products made from trees, listing these on the board as mentioned.
2. Share information from the booklet "Incredible Wood," or if possible secure enough copies to pass out to the class. Read through the information, adding any additional wood products to the list.
3. Ask students to imagine what life would be like without wood products, starting with getting up in the morning until they go to bed at night. List these on the board. For example: no toilet paper, no chair to sit on, no books made of paper, etc.
4. Share information from the booklet "Paper!" Explain that some paper is made from wood pulp obtained from trees, but other paper is recycled. Emphasize that not enough paper can be made from recycled materials, so it's important to plant quick growing trees that can be made into paper. In this way trees are a renewable resource.

Part 2 [40 Minutes]

5. Tear paper that students have collected into small pieces. Add pieces to fill the blender one-third full.
6. Add enough water to saturate the paper. Put the lid on, and blend to form a slurry. Add more paper and water as needed.
7. When thoroughly blended, dump into a bowl. Repeat until the bowl is full
8. Go outside and use the spatula to spread the blended paper in a thin layer over the screening. Let dry for approximately 15-20 minutes. Carefully peel the paper away from the screen.
9. While the paper dries, discuss the importance of recycling paper so that it doesn't end up in landfills. Also discuss the fact that even though trees are a renewable resource sometimes we don't have enough of them to make paper for everybody in the world.

Evaluation:

1. Instruct the students to finish the sentence “Woods is a renewable resource because...” and three-four more sentences explaining why.
2. Students will write a paragraph describing what their lives would be like without products made from trees. “I woke up this morning, looked out my window, and saw all the trees had disappeared!”