



Wise Use Of Paper*

Activity E.p

Grades 4 - 6

OBJECTIVES:

Students, teachers, and school staff will:

- Understand that they are the first links in the paper recycling process.
- Understand that reusing and recycling paper is a way of conserving resources, protecting the environment, and reducing energy use.

RATIONALE:

We use and throw away enormous amount of paper. Annually, each person in the United States uses 580 pounds of paper (approximately two trees' worth) -- that's 440 million trees a year used to make paper.

Americans consume more paper per person than any other nation in the world. Paper products use about 35 percent of the world's annual commercial wood harvest, a share that will probably grow to 50 percent by the year 2000."

Some paper can be reused or recycled, thus saving money and natural resources. Each ton of paper that is recycled replaces and preserves 13 to 20 500-pound, harvestable trees. Making paper from recycled paper can use 70 percent less energy, reduce water use by 60 percent, and reduce pollutants by 50 percent.

MATERIALS:

- Three boxes
- A scale

TEACHER BACKGROUND:

A single forest tree absorbs 26 pounds of carbon dioxide per year.

An acre of trees can remove 2.4 to 5 tons of carbon dioxide per year.

There are 728 million forested acres in the United States: they can remove more than 1.7 billion tons of carbon dioxide per year.

Just three trees around a house can reduce air conditioning needs 10 to 50 percent.

PRE- & POST-TEST QUESTIONS:

1. What materials do we use in the classroom every day which are made from trees?
2. How much energy could be saved by making paper from recycled materials rather than from trees?

3. Can you name three things made from recycled paper? (E.g., egg cartons, cereal boxes, newsprint, tissues)

PROCEDURE:

1. Have students collect, for a week, the classroom paper they would normally throw away.

2. Weigh the paper. Divide the collected discarded paper into two boxes:

Paper we can still use

Paper we have used completely

3. When practical, use paper from the first box for classroom work and assignments.

4. Put this now fully used paper in the third box and weigh. How much paper was reused?

5. (Grades 6 - 12) Calculate the number of trees saved if you did this activity for one year.

6. Discuss with students where paper comes from. Illustrate on the chalkboard the paper production process (e.g., trees - logging - truck transportation - processing and production - wholesale warehouse - store - you). Emphasize the use of energy at every step of this process.

Ask: "What has happened to the cost of energy in the last five years?"

Discuss the environmental consequences of logging and paper production, the effects on streams, fish, air, and water quality (i.e., depletion of forests, greenhouse effect).

7. Discuss what happens to paper when thrown away. Illustrate (e.g., paper is collected by janitor, thrown into dumpster, piled in garbage truck, taken to transfer station/landfill). What would be the results if the whole school used two sides of the paper instead of just one? Money saved? Amount of paper used? Pollution reduced? Energy conserved?

8. Referring to the fully used paper, Ask: "Can this paper be recycled into new paper or cardboard?" "What things are made from recycled paper?" (New paper, packaging, and insulation.) "How can you tell if something has been made from recycled paper?" (Look for the recycling logo on the package. In the case of cereal boxes, if the cardboard is gray, it was made from recycled paper.)
NOTE: 80 percent of recycled paper is used in packaging.

EXTENDED LEARNING:

1. Working with a partner, make two lists: (1) list all the paper products you use at home; (2) list substitute products to use in place of paper products (e.g., paper napkins, cloth napkins.)

2. Visit a local paper mill or paper recycling industry.

*Source: Washington State Dept. Of Ecology A-Way With Waste