Lesson Plan: Wise Use of Paper

Adapted from Trash Goes To School, Toxic Lesson Plan, Cornell Waste Management Institute – www.cwmi.css.cornell.edu

Goal: To teach students about the production and reduction of wastes and to create awareness that they are the first links in the paper recycling process. They will understand that reusing and recycling paper is a way of conserving resources, protecting the environment, and reducing energy use.

Assessment: Students will do an experiment where they collect all their paper from the classroom and weigh how much they generated as a class and per student. Students will be able to explain how paper is produced and how they can reduce their impact on the environment by recycling.

Age Group: Grades 6-8

Time: 45-60 minutes

Materials:
- Three boxes
- Scale

Background Information for Teachers

Even though we recycle much of the paper we use, it is still a significant part of what we throw in the trash. The United States alone, which has less than 5% of the world's population, consumes 30% of the world's paper. The production of paper accounts for 40% of the wood pulp, and printing and writing paper equals about one-half of the U.S. paper production. Because paper and packaging make up such a large part of our garbage, by using less paper you can reduce up to 40 percent of the trash that is thrown away.

Activity
- Have students collect, for a week, the classroom paper they would normally throw away in a week.
- Weigh the paper. Divide the total by the number of students to see how much each student generated on average. Divide the collected discarded paper into two boxes:
  A. paper we can still use
  B. paper we have used completely.
- When practical, use paper from box "A" for classroom work and assignments.
- Put this now fully-used paper into a third box and weigh it. How much paper was reused?
- Discuss with students where paper comes from. Illustrate on the blackboard the paper 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 effects of logging and paper production, the effects on streams, fish, air, and water quality.

Discuss what happens to paper when thrown away. What would be the result if the whole school used two sides of the paper instead of just one? Money saved? Amount of paper used? Pollution reduced? Energy conserved?

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, toilet paper, paper towels, building materials, and packaging such as cereal boxes.) 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 most likely made from recycled paper.) Note: 80% of recycled paper is used in packaging.

**Extensions**
Investigate other wastes that schools throw away and how these wastes might be reduced. Assign each student or groups of students’ one waste element that can be reduced in their school, such as, food waste. Explain to students that they will research and create a campaign to get other students to be aware of reducing that particular waste and the importance of it. Have them share these campaigns with other classes or at an all-school assembly.

**Minnesota Teaching Standards**

6th Grade
Science: 6.1.2.1.3
Social Studies: 6.3.4.10.1

7th Grade
Science: 7.4.4.1.2
Social Studies: 7.2.1.1.1, 7.4.4.23.1

8th Grade
Science: 8.1.3.3.3, 8.3.4.1.2
Social Studies: 8.1.1.1.1, 8.2.1.1.1