

# It Won't Last Forever!

*Grade Level: Primary to Intermediate*

## *Materials:*

Examples of natural resources: small box, sand, scraps of wood, glass container, paper products (napkin, paper towel, cardboard, etc.), oil, aluminum can, plastic products, baby food jars, trash can.

## *Background:*

Natural resources are the raw materials we use for housing, clothing, transporting, heating, cooking and so on. They include the air we breathe, the water we drink, the land we farm, and the space we use for living and recreation. We can put them into two categories: renewable and nonrenewable resources.

Nonrenewable resources exist in finite or limited amounts. Once they are used up, they are gone forever. For example, fossil fuels are formed through natural processes that take millions of years. If we use all the available fossil fuels, no additional amounts of them will ever be available to us - at least not for millions of years. Other nonrenewable resources such as copper and other metals were created billions of years ago during the explosions of giant stars. These nonrenewable resources are not created through natural processes here on Earth. The only way we could get more of them is to mine them on other planets.

Renewable resources are materials that can be replenished through natural and/or human processes. For example, even though trees die naturally or are harvested, new trees are naturally reseeded or can be replanted by humans. And even though people consume livestock, new animals are constantly being raised. Solar energy, wind and tides are renewable resources that are constantly or "perpetually" being renewed or restored.

When people recycle or reuse natural resources, they decrease the demand on the resource and may save energy. For example, when people recycle aluminum cans, less bauxite needs to be mined to create "new" aluminum. Recycling aluminum saves lots of energy as well.

## *Procedures:*

### *Getting Ready:*

Gather several large containers to use as recycling bins.

### *Activity:*

Divide the group into 2 or 3 teams to work on different projects, or have the entire group work on one project.

### *Project 1:*

Set up a classroom program for separating items that can be reused from those that can be recycled. Separate recyclables by paper, glass, aluminum cans and so on. Once the program is in place, the team should create a pamphlet showing how to set up a classroom recycling program. Students can then present their plan to other classes to help them set up in their own classrooms.

Reusable products can be collected and reused by students. For example, they could make writing tablets out of paper that has been printed only on one side. The program might include collection days for old lunch bags, writing paper and pencils that could be reused and a booth set up at recess or lunch on certain weekdays to redistribute the reusable supplies. By coordinating with other teachers, this could become a school-wide project.

### *Project 2:*

Set up recycling bins for glass, paper and aluminum cans in the cafeteria and faculty room. Students should create large posters with glued-on samples or pictures of the items that can be discarded in the bins: uneaten food, paper, plastic wrapping, reusable paper bags and so forth. They can set up a central recycling depot for all items collected in each classroom. Students should determine through letter-writing (or phone) where these items can be recycled in their community and whether or not there is a pickup service. If not, they should seek adult volunteers such as faculty or parents to take the recyclable materials regularly to the recycling center.

### *Project 3:*

Investigate the costs/benefits of various options to reduce waste. For example, is it cost effective to use disposable plastic eating utensils versus reusable ones and the required hot water and labor to wash them? Then, students can begin by conducting a survey to see what disposable or non-recyclable products used in the school cafeteria (or in their homes) could be replaced with recycled products or glassware - and at what savings or cost. In some situations, it might be more economical and environmentally sound to use disposable products.

## *Extensions:*

If possible, arrange a field trip to a nearby landfill. You should also try to visit an incinerator, waste-to-energy plant, composting facility or recycling center.