



Burning vs. Waste Combustion*

GRADE LEVEL: K-3

Activity P.s/E.bb

OBJECTIVE: To Learn About the Harmful Effects of Burning and the Alternative of Waste Combustion.

VOCABULARY: burning, ash, combustor, waste-to-energy plants

MATERIALS: large tin can and can puncher?; household waste: aluminum foil, food waste (such as apple core, egg shell, small piece of carrot), plastic (such as a piece of plastic wrap), glass, and newspaper; matches

PROCEDURE:

Some problems with open burning of waste may be examined by using a tin can with air holes punched around the bottom. Loosely place in it small pieces of the household waste. In a safe place outdoors, light a match to the contents. Have the children observe what happens.

- Which items burn and which don't?
- Which things melt?

The paper will burn easily. The food will char, but not really burn. The plastic will catch on fire and drip down into the pan, giving off fumes as a result of its petroleum base, and leaving a sticky residue. The metals will not burn at all. Ask the following questions:

- When we burn our garbage, where does the smoke go? Is this air pollution?
- What can happen to us when too much smoke gets into the air?
- What happens to the ash produced?
- Could the heat given off be used? For what?

Explain that waste can be burned safely and that harmful effects on the environment can be greatly reduced by using properly constructed and operated waste combustors. These combustors must have special controls to avoid polluting the air. Tell children that after the waste has been burned, there is still ash left over. This ash should be disposed of in a specially constructed sanitary landfill.

Modern combustors also create energy through the heat given off when waste is burned. This energy can be used to heat homes or provide electricity. Waste combustors that also produce energy are known as waste-to-energy plants.

Tell children that land disposal and combustion are two ways that communities can manage their waste. Source reduction — or reducing waste before it is produced — and recycling are two other methods which can be discussed.

* Source: U.S. Environmental Protection Agency Let's Reduce and Recycle: Curriculum for Solid Waste Awareness