

OBJECTIVE

To explore the need for packaging and the economics of managing packaging material.

MATERIALS

Orange juice in various containers (i.e. fresh oranges, glass bottle, plastic bottle, paperboard carton, aluminum cans, orange juice concentrate), containers for measuring liquids

WHAT IS SOURCE REDUCTION?

Reducing the amount of waste produced is the first step in managing municipal solid waste. Responsibility for this function falls on manufacturers and consumers alike. Using less packaging material can save resources and money. Manufacturers call this process lightweighting. According to a study by the International Bottled Water Association in 2010, between 2000 and 2008, the weight of 16.9-ounce single-serve PET water bottles dropped by nearly 33 percent.

A package is the container that encloses products, items or other packages. Packages come in a variety of shapes, sizes and materials including bags, boxes, cups, trays, cans, tubes, bottles, jars, wraps, and pouches. Packaging provides a number of essential functions.

Packaging prevents waste by keeping perishable foods fresh longer and by helping protect products from damage, breakage, and spoilage. Some packaging products are durable and easily reusable or recyclable.

There are numerous actions we as consumers can take to reduce waste, such as: using both sides of a sheet of paper; leaving grass clippings on the lawn; purchasing products in larger containers to reduce the amount of packaging thrown away; and buying refills. Each one seems small, but taken together, they add up. A package may contain recycled content which helps provide demand for recyclable material.

DEMONSTRATION

1. Set out the packages containing orange juice.
2. Have the students write down which item they would buy and why. Then lead a discussion on what each student chose.
3. Tell the students the amount of orange juice in each item and the price. You may choose to list these numbers on the board or on a paper for students' reference.
4. Pour the orange juice into measuring containers and discuss which item has the most orange juice for the price. At this time mix up the concentrate and measure it as well. Which package offers the most value? Which package option generates the most waste?
5. Industry is coming up with some new ideas to reduce packaging at the source, such as:
 - a. Making packaging materials thinner and lighter;
 - b. Producing packaging that is used as the product is used (so-called consumable packaging) e.g. cone for ice cream;
 - c. Combining products in one package (e.g., detergent and bleach);
 - d. Selling a starter bottle of a product which is subsequently refilled with tap water mixed with a small packet of the product in concentrated form.

Can students think of other innovative ideas?

DISCUSSION

Ask students how the choices we make when buying a product affect the municipal solid waste stream. Why do we choose certain products and their packages? Would you choose the same orange juice now? Why or why not? Which packages are recyclable and which have recycled content?