

Chapter Three, Lesson One:

Where Did the Garbage Problem Come From?

Concepts and Skills Addressed:

Problem solving
Class discussion
Listening skills

Materials Needed:

A variety of consumer products that students can examine and discuss in class.

Examples include:

- A package of chewing gum
- A complete pizza mix with crust, sauce and cheese
- A complete cake mix
- A two-liter, plastic drink bottle
- A wrapped, men's shirt
- A shampoo bottle
- A plastic ice cream tub
- A watercolor paint set
- An empty pickle jar

Students will learn how our demand for convenience sometimes leads to excessive packaging, which contributes to our waste problem. They will observe how we can avoid wasting some resources on single-use items by Reducing, Reusing and Recycling - the New Three Rs.



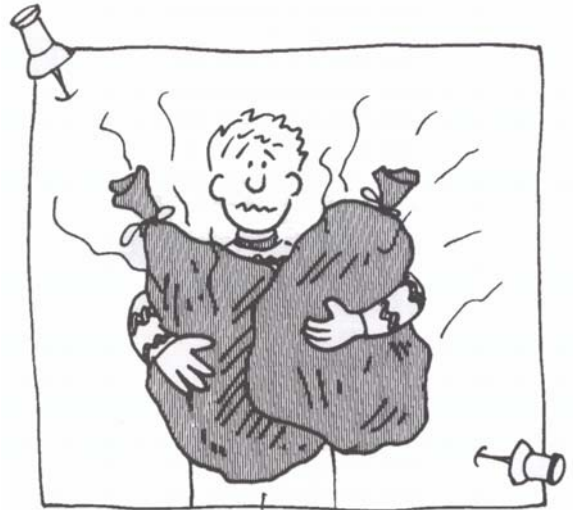
A. Procedure

1. Read the "Teacher Background" section.
2. Divide the class into groups and hand each group a product to examine.
3. Encourage the groups to dismantle their products and speculate what the packages are made of
4. Talk through the discussion questions as a class.

B. Teacher Background

1. Introduction

As we have seen in Chapter Two, prehistoric societies made the most of their resources. Remember the cave dwellers who used almost every part of the animals they killed? Later, we met a 10-year-old boy who was cut by broken glass in what was an open dump. How did we change from a society that once tried to get the most out of its resources to one that creates nearly four pounds of waste per person, per day? The answers to these questions are the basis for this lesson.



2. Our Dependence on Convenience

Modern Western society has used disposable goods at an ever-increasing rate over the past forty years. This trend evolved as an indirect result of the rapid growth of big industry during the first half of this century, which in turn triggered developments in technology. In the post World War II era, the United States and Canada experienced growing urban and suburban populations; a shift from single income to two income households with more buying power; and, finally, a greater need

for and dependence on convenience and speed in home care and grocery supplies.

Life in the city created the need for supermarkets, mass merchandise stores, and discounters. To help service and attract customers, merchandisers developed thousands of new products and invented thousands of ways to contain them. Pre-packaged food, for example, was convenient for both shoppers and retailers. Shoppers could now choose their groceries and sundry goods quickly, in pre-packaged forms. For the manufacturers and store operators, this new trend in merchandising meant easier storage of large shipments, better health standards, better inventory control and less damage. But this increase in packaging created an enormous demand for paper, plastic, glass and metal products, and put a steadily growing burden on the **waste stream**.

Items normally considered repairable or reusable now are considered disposable. A portable stereo, for example, may cost the same, or more, to repair as it does to replace. Other items have become disposable as well, including medical syringes, cameras, radios and watches. Much of what is currently seen as waste can be reused and recycled.

Statistics reveal the changes contributing to the solid waste disposal problem in North America. In the last few decades, solid waste has increased by over 25%. This increase can be attributed to a growing reliance on convenience items: convenient for use and convenient for disposal.

3. Single-Use Items Replaced Reusable Ones

Items that are used once and thrown away have replaced reusable items. There are many examples of this change. Years ago, a milkman came to the doorstep, collected empty glass bottles and replaced them with full ones that had been sterilized and reused. Today, people go to supermarkets to buy milk in cartons made



of plastic or waxed cardboard. (See the resources section for more information on recycled plastic.)

4. Many Reusable Materials are Thrown Away too Soon

While many products now come in nonrecyclable packages, too many reusable and **recyclable** materials are thrown away. Glass jars and bottles, for example, can be recycled and made into new containers. Every day, tons of paper products go to waste that might be recycled if we looked for more recycled products to buy. And an excessive number of aluminum and steel cans are thrown away rather than recycled. Paper, aluminum, steel and plastic can be reused and recycled many times before it must be thrown away for good. And, our uses for these materials go beyond packaging to include automobiles, toys, appliances, furniture, tires, etc.

Recycling is one clear option to controlling waste disposal. Today, packaging and other waste sources are being reassessed as citizens realize the need for environmentally sound options. **Degradability** and **biodegradability** are currently being explored as possible components to the solution. In addition, scientists and researchers around the world continue to look for a balance between society's need for convenience and environmental safety. At this time it is difficult to forecast a detailed solution. However, the solution will be an integrated one that includes recycling, incineration, landfilling and composting.

C. Demonstration

Let's look at what we put into the waste stream. Although there are many ways we add to the waste problem, MOBIUS suggests we take a look at different ways things are packaged.

1. Let's take a look at the items given to each group

(Teacher examines an item and asks that the students answer some questions as a group.)



MOBIUS asks:

- Why is this thing packaged this way?
- We're using many kinds of packages and only some of them can be used again. Can you show me a less wasteful way to package this item?
- With this new way, are you giving anything up? Freshness? Convenience? (Remember, some items are not food.)
- Perhaps some containers can be used again for the same or new purposes. What are some of these ways?

D. Class Discussion

If all of your families made pizza from a box tonight, how many packages would you be throwing away? (Box, dough package, sauce can, cheese packet, etc.)

- How many of these packages are recyclable?
- How much trash would we have to throw away after we took out the recyclables?
- Could we make enough pizza for everyone in this room with one package? (The package usually lists the serving size.)
- What would be the best way to make pizza for the whole class? If we bought all the ingredients separately?
- Which way costs less?
- Which way wastes less?
- What about the other items in the class?
- What part of these items can be used again or recycled?
- What cannot be used again and must be thrown away?
- What new ways could these items be packaged using less waste?
- What ideas did your group have to make use of the reusable parts of your item?

