



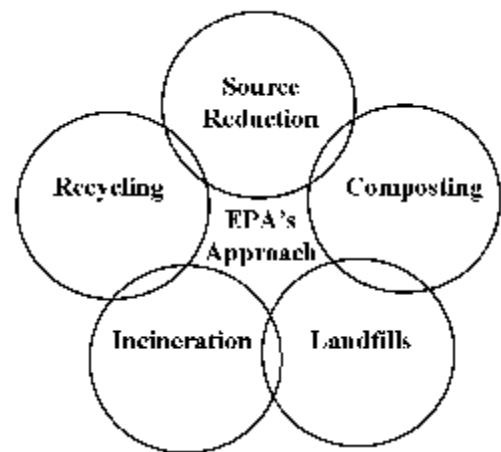
# INTEGRATED SOLID WASTE MANAGEMENT

Student Handout 1  
Activity M.w

Name: \_\_\_\_\_

## What is Integrated Solid Waste Management?

To help show Americans the primary ways in which solid waste should be managed, the United States Environmental Protection Agency (EPA) has devised an approach it calls "integrated solid waste management." "Integrated solid waste management" means using a combination of five ways to reduce and reuse as much waste as possible. The important word in the definition is "combination." No single approach to managing solid waste will solve the problem completely. Only by combining methods can we truly manage our waste.



## What are the Five Ways Found in the EPA's Approach?

The EPA's five ways to manage solid waste are: Source Reduction, Recycling, Composting, Waste-to-Energy Incineration, and Landfilling.

### Source Reduction

One way to manage solid waste is to reduce the waste we generate at the source. This is called "source reduction." For manufacturers, "source reduction" means producing less waste at a manufacturing facility itself. It also means designing products that have the least amount of packaging necessary to keep the product safe and of a high quality so as to meet the needs of the consumer. For individuals, "source reduction" means reducing how much you use of an item, or deciding whether to use it at all. Writing on both sides of a sheet of paper before throwing it away is an example of source reduction. Another example is using durable clothing, appliances, furniture, and recreational equipment carefully and responsibly so that these items do not wear out so quickly.

### Recycling

The EPA believes that another important step in managing municipal solid waste is to reclaim the valuable materials, for example, glass, aluminum, steel, plastic, paper, etc., and turn them into something useful. We do this by recycling.

Businesses help in this area by establishing recycling programs in their facilities. Individuals help in recycling by sorting materials at home and participating in local recycling programs.

### **Composting is Recycling Too!**

“Composting” means the decomposition of organic materials. “Organic materials” are items that were once living matter. Paper, leaves, grass and food are examples of organic material. For many years, people have composted food and yard waste in their backyards. “Municipal Solid Waste Composting” is a relatively new way to take advantage of an age-old process. This means composting as much of a town or city’s solid waste is possible. In recent years, for example, some cities have removed fallen leaves and grass clippings from what goes to the landfill and have begun composting these materials.

The EPA considers composting to be a type of recycling. While Europeans have been composting their municipal trash for almost 30 years, we in the United States are just beginning to learn about how municipal solid waste composters can recycle paper, food waste, and yard waste into a soil additive that can be used in planting trees and shrubs.

### **Waste-to-Energy Incineration**

A fourth part of the EPA’s approach is “waste-to-energy-incineration.” This is also a method of reclaiming value from our trash—in the form of energy!

In simplest terms, “waste-to-energy incineration” means burning trash to produce electricity. Today’s waste-to-energy incinerators use high-technology scrubbers to remove potentially harmful gases and to collect ash that results from the burning of trash. Most importantly, these incinerators also produce energy. The heat produced by burning trash can be recovered through a steam turbine that produces electricity. In some instances, the steam itself is used to provide heat.

### **Landfills**

A fifth aspect of the EPA’s approach is “landfilling.” A modern “landfill” is a sanitary site for disposal of MSW. For many communities, the landfill is the last resort for trash. For these communities, the landfill is the place where MSW goes after steps have been taken to reduce trash through source reduction, recycling and composting, and waste-to-energy incineration. For other communities, landfills will play a more important role because other MSW management methods are more expensive or less practical.

The EPA recommends that all communities attempt to reduce as much as possible the amount of MSW that goes to landfills. In this way we can lighten the burden caused by the trash we throw away. This is a new way to look at landfills. Landfills should be the way we dispose of our trash after as many valuable materials as possible have been reclaimed or reused. These other steps should be considered first, rather than looking at landfills as the primary way of taking care of our trash.



# INTEGRATED SOLID WASTE MANAGEMENT

Student Handout 2

Name: \_\_\_\_\_

Instruction:

From what you know about the methods of managing solid waste, develop graphic symbols for each of the five approaches shown below:

