



Garbage Decision Making: An Analysis of Data*

Activity H.o
Grades 9 - 12

OBJECTIVES:

Students who participate in this activity should be able to:

1. Understand good decisions regarding environmental safety utilize the cost and benefit or risk management technique.
2. Employ the marginal decision making process in their own lives and evaluate the decisions of others based upon a comparison of the marginal social benefit with the marginal social cost.
3. Realize the concept of product safety includes safety to humans, animals, and the general environment now and in the future.

MATERIALS:

Facts About Solid Waste fact sheet for each student.

TIME: two class periods

OVERVIEW:

Students discover that decisions often have long-term impacts and secondary effects as they devise their own solution to the solid waste problem in America. After researching and reading about the magnitude of the problem, students develop a solution to the problem and write a position paper. Student groups evaluate the individual ideas and reach consensus on a solid waste plan.

The decisions people make have consequences or secondary effects often called externalities. Consumers' decisions to consume and producers' decisions to package products in certain ways generate solid waste which impacts not only the consumer and business, but also the rest of society. The proper safe disposal of solid waste is becoming a major societal concern because many of our landfills are closing, and others no longer meet the more substantial environmental restrictions. In addition, the cost of developing new environmentally safe landfills has skyrocketed.

PROCEDURE:

1. Introduce this lesson by writing "NIMBY" on the chalkboard. Ask the students if anyone knows what these letters mean? Have them guess if nobody has the answer. Following the answer or the students' guessing, write "not-in-my-back-yard" on the chalkboard. Ask the students what this means and what has caused this attitude to develop.

The “NIMBY” concept has become prevalent in the last few years in regards to waste disposal. Although most people see the need for having proper waste disposal facilities, few people want the facility “in-their-back-yard” or community. The attitude of “let someone else bear the cost of my garbage” coupled with high development costs is keeping proper facilities from being built. The problem is reaching critical proportions. People are worried about literally being buried in their own solid waste.

2. The topic of solid waste is current and considered critically important by individuals, businesses, environmental groups, and governmental officials. Consequently, many references to the issue can be found in the media, in speeches and in periodicals.

Place the title GARBAGE on the bulletin board. Under the main title add the subtitles Student, Domestic, and International. Assign each student the task of finding an article, picture or item that adds to his or her understanding of the solid waste problem and have them bring it to class for discussion and placement on an “instant bulletin board.” Before the students can place their item on the bulletin board, they must summarize its content to the class and decide with the class under which subtitle it best fits. Upon completion of this task, ask the students to place the item on the bulletin board.

Articles on radioactive waste, garbage barges, rising “tipping fees” (i.e., fees charged for trash removal) and ground water contamination (to name a few) are excellent topics for the bulletin board display.

3. It is very possible the “Instant Bulletin Board” activity described filled the spaces under the subtitles Domestic and International, but the Student subtitle may lack adequate material. To correct this deficiency, draw a garbage can on the bulletin board under the Student subtitle. Split the garbage can picture in half by drawing a vertical line down the middle. Label one half Volume and the other Weight.

Assign the students the task of measuring the garbage their family has produced in one day. It may help to facilitate this activity to let students know a few days in advance what will be required. Suggest they provide an empty container for their family to use for disposing of all their trash and garbage that day. Calculate the volume in cubic inches (length x height x width). After the volume has been determined, ask the students to weigh the garbage. Both of these numbers MUST be returned to class the next day. Add the volume and weight numbers together and place on the bulletin board under the appropriate sections in the garbage can. Discuss the differences and similarities between the solid waste totals brought in by the students. Why do some families have a lot of garbage and others do not? Convenience foods, participation in recycling efforts, family life-style, trash compactors, size of family and age of family will help answer the questions.

4. Distribute a copy of the student reading, FACTS ABOUT SOLID WASTE, to each student. Their assignment after reading the fact sheet is to write a one page position paper suggesting a solution to the solid waste problem. Explain that a position paper is a report which recommends a course of action on a particular issue. Tell the students to be sure to create an incentive system which will help people decide to follow their suggested solution. For example, if recycling is the suggestion, proper rewards must be given to both the individual and business to use recycled materials.

The position papers will be evaluated using the following criteria:

- Demonstrated understanding of the problem.
- Proper incentives for action.
- Long-term versus a short-term view.
- An understanding of cost and benefit decision making.

Effectiveness of the plan.

Is the plan safe for humans, animals and the environment?

5. Divide the class into groups of six. Ask each group member to read his or her position paper to the group. Discuss the papers using the criteria described above in an attempt to identify the solution(s) to the problem of solid waste and a safe environment. This assignment should cause a great deal of conflict and confusion because a single solution or a complete eradication of solid waste is not feasible. The proper procedure weighs the social costs and the social benefits of every suggested solution and selects the alternative which provides the greatest good at the lowest cost.

6. After the groups have had time to discuss, argue, and reach some level of agreement, bring them back together as a total class. Discuss as a class a comprehensive program for solid waste that may be acceptable to most people. Include:

- A. Source reduction
- B. Recycling and composting
- C. Incineration
- D. Secure landfills

7. Once a program has been identified, ask, "Does this program eliminate solid waste?" The answer will be no. The program represents a decision to have an acceptable level of waste at safe limits given certain costs now and in the future.

*Source: Decisions About Product Safety: A Multi-disciplinary Teaching Unit, produced by Procter and Gamble Educational Services