



Hazardous Waste Hot Potato*

Activity E.e

GRADE LEVEL: 4-6

OBJECTIVE: Students will:

Learn what characteristics make a substance hazardous.

Learn the signal words for hazardous substances

Learn the definitions for terms related to household hazardous waste.

Recognize their responsibility for safe disposal of household hazardous waste.

MATERIALS:

Teacher:

Four examples of hazardous household products, or use the sample products on

For Each Team:

Ten "hot potatoes" (these may be potatoes, eggs, wood blocks, or plastic containers, etc.)

Ten household product sticker labels for the ten household products

Ten toxic warning stickers

Five corrosive warning stickers

RATIONALE:

Many useful products are hazardous. The typical home stores "between three and ten thousand pounds of hazardous waste." These products, when handled or disposed of improperly, can endanger human health and harm our environment. We should consider how each of us generates hazardous waste and our responsibility for its safe management and disposal.

TEACHER BACKGROUND:

- Many common household products contain hazardous substances. Washington citizens dumped 14,700,000 pound of household hazardous wastes in landfills in 1987.2 When these wastes are discarded in landfills, the unused portions can accumulate and, over time, contaminate water supplies or emit harmful vapors. Because of tightening hazardous waste disposal regulations, the closure of landfills, and the realization that these wastes present health and environmental problems, our public officials are faced with the problem of what to do with wastes from a variety of sources that in the past were assumed to be harmless. This activity introduces the many problems associated with hazardous wastes and looks at how we might manage hazardous wastes for the benefit of people and the environment.
- Study the three overheads before teaching this lesson to familiarize yourself with the terms used to describe hazardous substance characteristics and toxicity ratings. The four disposal options and products in the game are:
- Recycle: (e.g., auto battery, transmission fluid)

- Trash for the landfill: (e.g., empty aerosol can)
- Hazardous waste collection: (e.g., rat poison)
- Flush down drain: (e.g., ammonia household cleaner)
- You should be able to explain why a sewer line can take certain items that a septic tank can't. (The bacteria in the septic tank will be killed by these toxic household items; whereas the sewage treatment plant chemically breaks down the toxics.) This is one reason not to dump things in the sink. Ask the class for others. Be prepared to explain to the class what a sanitary landfill is. Household hazardous waste collection programs safely reuse, treat, or dispose of a community's household hazardous waste.

PRE- AND POST-TEST QUESTIONS:

- What are six words that indicate household hazards? Define the words.
- What is toxicity? What are the three warning words for the degrees of toxicity?
- What are four common disposal methods for household hazardous wastes?

PROCEDURE:

- Explain the dangers of household hazardous substances to the class. Tell them, for example, that 125 people per day in the U.S. are poisoned by pesticides.
- Show each of the four household hazardous product examples to the class. (Be certain that your containers are empty and safe for display in the classroom)
- Read aloud to the class any warnings on the labels.
- Show the overhead "Hazardous Substance Toxicity Chart." Explain the three degrees of toxicity. Ask the class if they have items in their homes that meet the different degrees of toxicity.
- Show the overhead "Hazardous Substance Characteristics." Carefully go over the definitions.
- Ask the students to make a list of five hazards in their own homes. Ask how the items are stored. Discuss which hazardous signal words you would find on these items. Discuss what you would do with these items when you are finished with them. (Examples might be to throw in trash, dump on ground, flush down drain, store in basement or garage, share usable products with neighbors.)
- Show the overhead "Hazardous Substance Warnings." Outline to the class each of the four disposal methods on the overhead (recycle, hazardous waste collection, trash for landfill, and flushing down a toilet). Explain here the difference between a septic tank and a sewer line system to a treatment plant.
- Now, cover the overhead. Ask the class which of the four disposal methods they think is appropriate for each of the display items.
- Tell the class that they will be given an opportunity to work as teams to decide the proper disposal of ten household hazardous waste items. Then explain the rules of the game from the attached sheet. They may consult one another for advice, and each team may be given a copy of the "Hazardous Substance Warnings" overhead.
- Play the "Household Hazardous Waste Disposal Game."

EXTENDED LEARNING:

Have the class make an inventory of the household hazards in their home, and bring the list to class. Call the Department of Ecology Recycling Hotline, 1-800-RECYCLE, and find out when they have hazardous waste collection days in your area.

BIBLIOGRAPHY:

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