Environmental Experiments and Activities
Activity One

What would happen if a bottle didn't have its warning label on it? Let's explore what might happen:

- 4 glasses
- Marking pen

*masking tape
*1/2 cup vinegar (clear)
*1/2 cup water
*1/2 cup apple juice
*1/2 cup pine cleaner
*teaspoon baking soda
*paper towels

Let's Use These Items:

- In groups prepare all the props that you would need. One group member will leave the room.
- Label the glasses 1-4 or A-D.
- Pour vinegar into glass 1, water into glass 2, apple juice into glass 3, and pine cleaner into glass 4. Make sure you put away the original containers so they are not visible.
- Ask the group member to come back into the room. The group member will stand at least five feet from the four glasses.
- Ask the group member to tell you what is in each glass. Or ask them which liquid they would drink.
- If the group member guesses the correct liquid, congratulations are in order. But remember this was probably a lucky guess.
- If they guess the incorrect liquid, tell them what they would be drinking!

This experiment shows how important it is to label liquids and other hazardous materials - better yet, keep them in the original containers with the original labels.

You can also demonstrate what would happen if you assume clear liquid is water.

1. Add the baking soda to the water. It should dissolve easily.
2. Add the baking soda to the vinegar. It will cause a reaction.

Environmental Experiments and Activities
Activity Two

We find Household Hazardous Materials (HHM) in specific locations in our homes (garage, laundry, and kitchen). They fall within several broad categories associated with their use (auto supplies, detergents, and/or cleaners). Because more people are becoming environmentally aware, we can find alternative products within these categories that are not harmful. The only way to determine which products are and which products are not harmful is to read the label. Let's conduct an inventory of the household hazardous materials in your home. Let's also try to determine if the material is a household hazardous waste (HHW) or still in use.

Let's Use These Items:

- a household hazardous materials list
- a piece of paper (at least 8" by 11")
- pencil or pen
- ruler

- Draw a simple floor plan of your house. A floor plan is simply a drawing of each room looking down on the house - just as if you ripped off the roof and looked down into the house from a height.
- Here's a floor plan of a house in a neighborhood. Most of the hazardous materials are kept in the rooms in which they are used.

<table>
<tr><td rowspan="2"><u>GARAGE</u>
Motor oil
Oil-based paint
Waste motor oil
Thinner
Waste thinner</td><td colspan="2"><u>LIVING ROOM</u>
None</td><td><u>BATHROOM 1</u>
Toilet bowl cleaner</td><td><u>BEDROOM 3</u>
None</td></tr>
<tr><td rowspan="2"><u>DINING ROOM</u>
None</td><td rowspan="2"><u>KITCHEN</u>
Ammonia
Waste lye
Drain opener
Furniture polish</td><td rowspan="2"><u>BEDROOM 1</u>
None</td><td><u>BEDROOM 2</u>
Fingernail polish remover
Medications
Hairspray
Batteries</td></tr>
<tr><td><u>STUDY</u>
Hobby chemicals</td><td><u>BATHRROM 2</u>
None</td></tr>
</table>

- Go to each room and look in closets, drawers, and cupboards, on the floor and shelves for containers holding items that might be HHM or HHW.
- Read the labels to determine if the contents are hazardous. Your HHM list can help you identify potential hazardous materials.
- Write the products in each room on your floor plan.

- Without opening the containers, can you tell if the product is material or waste? Write an "m" or a "w" on the floor plan next to the item. If it is okay with your parents, set aside the items you called waste in a secure area. You can take these to a HHW collection.

List how many items you found in each room.

Room	Number of items	Number of wastes
Total up your columns		

- In which room did you find the most items?

- In which room did you find the most wastes?

- What percentage of your total items found were waste?

  Example: If you have 37 total items and 17 waste items, you can calculate percentage as follows:

  $$\frac{17}{37} \text{ X } 100 \text{ equals } 45.9\% \text{ or } 46\%$$

- What was the condition of the containers? Was any leaking?

- Were all the items stored properly? (no leaks, containers closed, secured from young children)

- Did you find items that weren't on your list or see warning terms or symbol that weren't discussed in the activity? What were they?

A LIST FOR YOU - COMMON HOUSEHOLD HAZARDOUS MATERIALS

TOXIC

Insect sprays
Mothballs
Antifreeze
Used motor oil
Weed killers
Wood preservatives
Batteries
Fertilizers
Rodent bait
Ant traps
Insect foggers
Fungicides
Herbicides
Pesticides
Flea collars

FLAMMABLE

Brake Fluid
Carburetor cleaner
Chlorinated Solvents
Gasoline
Kerosene
Lacquer paint
Paint thinner
Sealer
Solvents
Oil-based paints
Finger nail polish remover

CORROSIVE

Oven cleaners
Drain cleaners
Muriatic acid
Photographic fixer
Floor stripper
Rug shampoo
Caustic soda
Ammonia
Ammonium hydroxide
Lye
Silver polishing cream
Sodium hydroxide
Navel jelly
Hydrochloric acid
Rust remover
Ph reducers/increasers
Sulfonic acid
Aluminum jelly
Phosphoric acid
Trisodium phospha

REACTIVE/OXIDIZER

Bleach
Pool chlorine
Hydrogen peroxide
Calcium hypochlorite
Potassium nitrate
Stump remover
Sodium hypochlorite
Potassium permanganate
Bromine