

Identifying Sources of Pollution

Everyone enjoys hanging out in a clean kitchen, but few people think about the way that cleanliness is achieved. For most people, a fresh, disease-free environment means using easily obtainable chemicals. When used, stored, and disposed of properly, most chemical products aren't harmful. But eventually, if they aren't used up, these materials must be thrown away. Some discarded products can cause pollution. And if they are accidentally or intentionally misused, some products can cause injury or even death.

As you do this lab, you'll identify and list materials that are potential sources of pollution in your home. You'll also come up with strategies to reduce the amounts of these products that are used and learn how to use and dispose of existing ones safely. Reducing the use of harmful materials and disposing of them properly can reduce the risk of contaminating soil, water, and air in your environment.

OBJECTIVES

Identify and **classify** examples of household hazardous materials.

Organize your observations by creating a data table.

Explain ways to reduce or eliminate hazardous wastes in the home.

MATERIALS

- library resources, which may include the Internet
- paper and pencil, or computer word processing program or spreadsheet



Procedure

PART I—MAKING A DATA TABLE

1. Form groups of 2 to 4 students.
2. Brainstorm examples of materials in your home that you predict would be potentially hazardous. If you need help, consult this chapter in your textbook.

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3. Prepare a data table that you will use later to organize your observations at home. The sample data table below shows possible column headings that may be useful as you record your data. Feel free to be creative with the table design, but make sure that there is room for at least 10 entries.

Home Hazards

Material or item	Location	Ingredient(s)	Hazard	Use

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PART II—INVESTIGATE AT HOME

4. Look around the house for materials and products that you suspect are potentially hazardous. **CAUTION: Always handle hazardous materials under the supervision of an adult. Use caution, and wear safety goggles and protective gloves when handling chemicals or other potentially dangerous items.**
5. If you find an item with a label printed on it, read it carefully. Pay special attention to warnings and recommendations for safe use and disposal. Older products may not have warning labels.
6. If the item isn't labeled, but you suspect it may potentially pollute air, water, or soil, ask an adult for help.
7. Record as much pertinent information as you can in the table. Not all materials will have an entry for every column heading.

Analysis

1. **Examining Data** In which locations did you find the most sources of pollution? Were hazardous products stored correctly?

2. **Analyzing Data** Were any items you listed a potential hazard to air quality in your home? If so, how can you help ensure that they are used safely?

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Conclusions

- 3. Drawing Conclusions** Suggest at least six ways that you could reduce the quantity of hazardous materials in your home. Of these six, at least two of your ideas should recommend safe alternate materials that could replace some of your hazardous items.

- 4. Applying Conclusions** Choose a business or industry, and infer what hazardous materials are handled. Research how the company deals with proper handling and disposal of hazardous wastes.

Extension

- 1. Research and Communications** Design a pamphlet that summarizes your class results. Form teams of 2 to 4 students to take on various jobs involved in designing, printing, and copying pamphlets for distribution to other classes in the school. The pamphlets should educate the community about methods to reduce potential pollutants in the home. Pamphlets should contain information about nearby hazardous waste collection sites and scheduled collection dates, as well as possible required proof of residency in order to use the waste collection sites.