

**Science Explorer • Student Safety Test**

# Student Safety Test: Recognizing Laboratory Safety

## Pre-Lab Discussion

An important part of your study of science will be working in a laboratory. In the laboratory, you and your classmates will learn about the natural world by conducting experiments. Working directly with household objects, laboratory equipment, and even living things will help you to better understand the concepts you read about in your textbook or in class.

Most of the laboratory work you will do is quite safe. However, some laboratory equipment, chemicals, and specimens can be dangerous if handled improperly. Laboratory accidents do not just happen. They are caused by carelessness, improper handling of equipment, or inappropriate behavior.

In this investigation, you will learn how to prevent accidents and thus work safely in a laboratory. You will review some safety guidelines and become acquainted with the location and proper use of safety equipment in your classroom laboratory.

## Problem

What are the proper practices for working safely in a science laboratory?

## Materials *(per group)*

science textbook

laboratory safety equipment (for demonstration)

## Procedure

### Part A. Reviewing Laboratory Safety Rules and Symbols

1. Carefully read the list of laboratory safety rules listed on pages v and vi of this lab manual.
2. Special symbols are used throughout this lab book to call attention to investigations that require extra caution. Use page vii as a reference to describe what each symbol means in numbers 1 through 8 of Observations.

### Part B. Location of Safety Equipment in Your Science Laboratory

1. The teacher will point out the location of the safety equipment in your classroom laboratory. Pay special attention to instructions for using such equipment as fire extinguishers, eyewash fountains, fire blankets, safety showers, and items in first-aid kits. Use the space provided in Part B under Observations to list the location of all safety equipment in your laboratory.

## Recognizing Laboratory Safety *(continued)*

### Observations

#### Part A



1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



4. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



5. \_\_\_\_\_  
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6. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



7. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



8. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**Part B**

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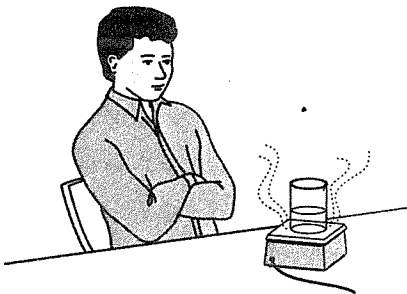
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**Analyze and Conclude**

Look at each of the following drawings and explain why the laboratory activities pictured are unsafe.



1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

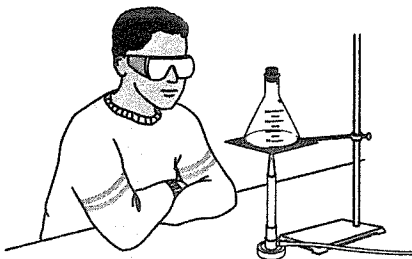


2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



3. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Recognizing Laboratory Safety *(continued)*

### Critical Thinking and Applications

In each of the following situations, write *yes* if the proper safety procedures are being followed and *no* if they are not. Then give a reason for your answer.

1. Gina is thirsty. She rinses a beaker with water, refills it with water, and takes a drink.

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2. Bram notices that the electrical cord on his microscope is frayed near the plug. He takes the microscope to his teacher and asks for permission to use another one.

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3. The printed directions in the lab book tell a student to pour a small amount of hydrochloric acid into a beaker. Jamal puts on safety goggles before pouring the acid into the beaker.

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4. It is rather warm in the laboratory during a late spring day. Anna slips off her shoes and walks barefoot to the sink to clean her glassware.

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5. While washing glassware, Mike splashes some water on Evon. To get even, Evon splashes him back.

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6. During an experiment, Lindsey decides to mix two chemicals that the lab procedure does not say to mix, because she is curious about what will happen.

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