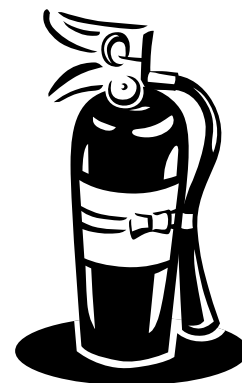


**EXPERIMENTING SKILLS*****Safety Rules!***

Creating, exploring, inventing, investigating—these are essential to the study of science. Frequently, scientists do their best work in the lab. To make sure that your laboratory experiences are safe as well as exciting and productive, some safety guidelines should be established. It's important that safety rules! So what do you need to know about safety? The following pages offer important guidelines for staying safe in the science classroom. Your teacher will also have safety guidelines and tips that are specific to your classroom and laboratory.

**Start Out Right!**

- **Clutter chaos!** Extra books, jackets, and materials will only get in the way of experiments and create clutter that could interfere with your tasks. On lab days, don't bring anything to the room except the books and materials you will need to complete the lab.
- **Caught in a bind?** Loose clothing, jewelry, and long hair can get in the way of your scientific investigations, so secure loose clothing, remove dangling jewelry, and tie back long hair.
- **Toe trouble!** Avoid wearing sandals or open-toed shoes in the laboratory environment. They will not protect your feet if a chemical or a sharp or heavy object is dropped on them.
- **Flaming beauty?** Certain hair products, such as aerosol hair spray, are flammable and should not be worn while working near an open flame; avoid wearing hair spray or hair gel on lab days.

**Check It Out!**

- **Who ya' gonna call?** Where is the nearest telephone? Are the phone numbers posted for the fire and police departments as well as for the ambulance and poison control center?
- **Safety patrol.** Where is the safety equipment for the laboratory? Know the location of all safety and emergency equipment, such as fire extinguishers, and know how to operate this equipment.



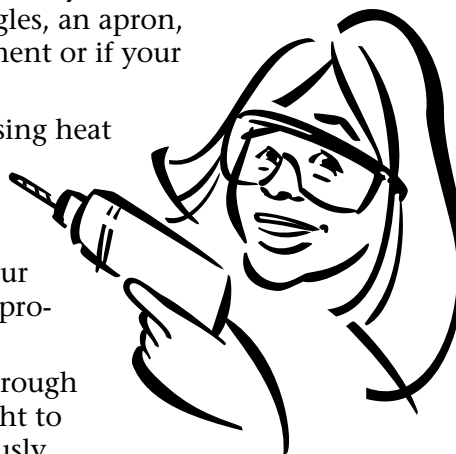
### Safety Rules! continued

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- **Quick exit!** Know the fire-evacuation routes established by your school.
- **What's up?** Before you begin an experiment, review the supplies you will be using and any safety issues you should be concerned about.

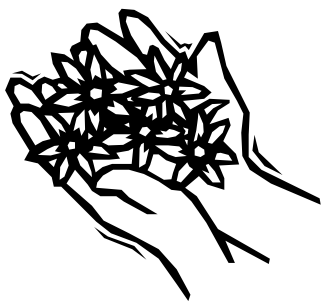
### Prevention? Precisely!

- **Safety in numbers.** Never work alone in the laboratory.
- **Better safe than sorry.** Use lab equipment only in the manner that your teacher has demonstrated. If you have a great idea for a new experiment, first share the idea with your teacher—perhaps the whole class will benefit!
- **Food for thought.** The laboratory environment is no place for food, drinks, or cosmetics. Never eat food, drink a beverage, or apply cosmetics while in the lab.
- **Stylin' for safety!** Find out what safety equipment you should be wearing for the lab. Be sure to wear safety goggles, an apron, gloves, or a lab coat if called for in the experiment or if your teacher instructs you to do so.
- **The eyes have it!** Wear safety goggles when using heat or chemicals and when handling objects that may break, expand, or in some way endanger your eyes.
- **Gain no stain!** Certain chemicals can stain your clothing. Wear an apron or laboratory coat to protect clothing while working with chemicals.
- **Solar power!** Never look directly at the sun through any optical device, and never use direct sunlight to illuminate a microscope. Doing so could seriously damage your eyes.
- **Some sharp thinking!** Sometimes sharp objects such as scissors, scalpels, razor blades, knives, and probes are needed in the laboratory. Always exercise extreme caution when using a sharp object in the lab. Never cut an object while holding it in your hand—always use an appropriate work surface. Never use a double-edged razor in the lab.
- **Don't crack up!** Never use glassware that is chipped, scratched, or cracked. Chips, scratches, and cracks cause stress points at which glass can break.
- **Hot news!** Whenever possible, use an electric hot plate instead of an open flame unless the experiment specifically calls for an open flame.



**Safety Rules! continued**

- **Electrifying idea!** Use caution with electrical equipment. Never use equipment with frayed cords, and make sure that equipment cords are not located where someone could trip over them. Never use an electrical appliance if your hands or clothing are wet. Never use an electrical appliance around water.
- **Keep your cool!** Before working with a flammable liquid or gas, check for the presence of any source of flame, spark, or heat.
- **Chem care.** Always use caution when working with a chemical or a chemical solution. Some chemicals are corrosive, some are poisonous, some are flammable, and some that seem harmless can become hazardous when combined with another chemical.
- **In poor taste.** Never touch, taste, or smell a chemical unless your teacher specifically instructs you to do so. That chemical could cause a reaction when inhaled, touched, or ingested.
- **Don't mix for kicks!** Never mix any chemical unless your teacher specifically instructs you to do so.
- **Do as you oughta, add acid (or base) to water!** Never do the opposite! Pouring water into an acid or base could produce thermal energy and cause dangerous spattering.



- **Aim for the stars.** When heating a chemical in a test tube, never point the test tube at yourself or anyone else.
- **Animal rights and wrongs.** You may occasionally work with living animals in the laboratory. Always show respect for any animal you work with. Always obtain your teacher's permission before bringing an animal to the classroom. Never abuse an animal in any way.

- **Handle with care!** Living plants should also be handled carefully in the laboratory. Never ingest any plant or plant part unless your teacher specifically directs you to do so. When in nature, do not pick any wild plants unless your teacher instructs you to do so.
- **Accidents happen.** In the event of an accident, notify your teacher no matter how minor the accident seems to be, and follow his or her directions immediately.









### Safety Rules! continued

#### A Neat Way to End It!

- **Clean scene!** When you have completed an experiment, clean up your area and return all equipment to its proper place.
- **Sudsational!** Wash your hands with soap after completing an experiment.
- **Don't be a fool, leave it at school!** Never take anything from the laboratory without permission from your teacher.

## **PANIC BUSTERS**

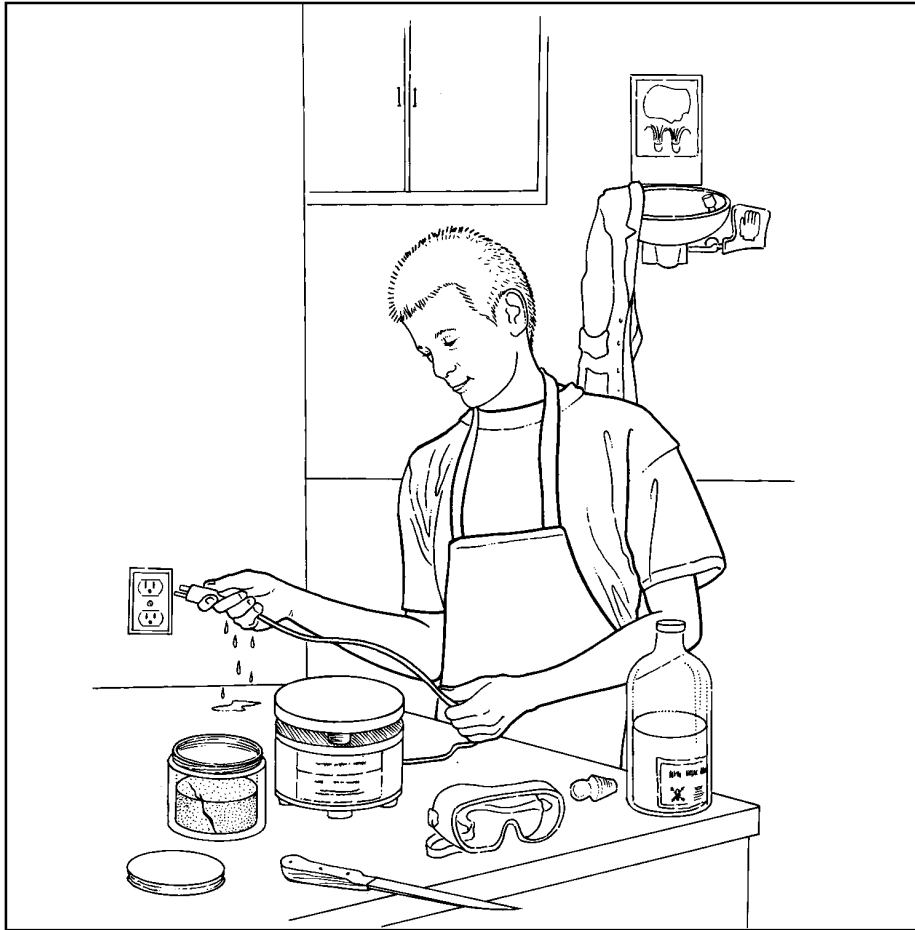
What do I do when . . .

-  a fire occurs? **In the event of a fire, alert the teacher and leave the laboratory immediately.**
-  my clothes are on fire? **Stop-Drop-Roll! Stop immediately, drop to the floor, and roll. This is the quickest way to smother a fire.**
-  my lab partner's clothes or hair is on fire? **Grab the nearest fire blanket, and use it to extinguish the flames. Inform your teacher.**
-  a chemical comes in contact with my eyes? **Wash your eyes with water for at least 15 minutes. Inform your teacher.**
-  I spill a chemical on my body? **Rinse the affected area for at least 15 minutes. Inform your teacher.**
-  I spill a chemical on the floor? **Keep your classmates away from the area, and alert your teacher immediately.**

**Safety Rules! continued**

**Safety Slacker**

Study the picture below.



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Discuss what safety precautions are not being followed. How can the student improve his safety procedures?

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