



# Student Lab Safety

An important part of your science work will take place in the laboratory. The laboratory is a safe environment in which to work if some general rules are observed and if the people who work in the laboratory are informed and careful.

As a first step toward becoming an informed laboratory worker, read the following safety rules. Discuss them with your teacher, with your lab partners, and with your parents or guardians. Reread them to make sure that you understand each rule. Ask your teacher about the rules that are unclear to you. When you are sure that you understand all of the safety rules that are on the list, sign and date the contract, have your parent or guardian sign and date the contract, and return to your teacher. Signing the contract indicates that you are aware of the rules of the laboratory.

## Dress Code

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1. To protect your eyes from possible injury, always wear safety goggles when doing laboratory work. Wear glasses rather than contact lenses when you work in the laboratory. Goggles must be worn even when wearing eyeglasses.
2. Tie back long hair and loose clothing (scarves and ties) and remove jewelry when you work at the laboratory station. Roll up loose sleeves that might fall into chemicals or become caught on equipment. The use of laboratory coats or aprons is recommended when you work with acids or open flames.
3. Do not wear open-toed shoes or sandals in the laboratory. Never go barefoot.

## Preparation for Laboratory Work

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4. Prepare for the experiment by reading all of the directions before class begins. Before beginning the experiment, ask your teacher about directions that you do not understand. Discuss the procedures with your lab partner or team. Assign specific tasks to individuals, especially if speed is a factor in the procedures.
5. Before you begin work, make sure that you know how to operate the equipment that will be used in the experiment.

## Performing an Experiment

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6. Keep your laboratory work area clear of any materials that are not needed for performing the experiment. Texts, notebooks, backpacks, sweaters or jackets, and other materials should be stored away from the work area.
7. Handle all equipment as directed. Note all safety precautions in the instructions for your experiments.
8. Do not use direct sunlight as the source of light for microscopes that have mirrors.
9. Never use a double-edged razor. Handle all sharp instruments with extreme care.
10. Do not stir solutions with a thermometer; use a glass stirring rod. If a thermometer breaks, inform your teacher at once, and follow your teacher's directions for cleaning them up.
11. Take extreme care not to spill materials in the laboratory. Report all spills immediately, and follow your teacher's directions for cleaning them up.
12. Keep flammable materials away from open flames. Place burners sufficiently far from the edge of the work area. Never reach across a flame.
13. Use tongs or a clamp to pick up hot containers. Test the temperatures of the equipment and containers that have been heated by placing the back of your hand near the object before picking it up. If you can feel heat, the object might be too hot to handle.
14. Dispose of materials only as directed. Do not pour chemicals into a sink or throw specimens into the trash. After you have completed your work, turn off all equipment and clean your work area. Return all equipment and materials to the appropriate storage places.
15. Wash your hands before and after each experiment.
16. Never eat or drink in the laboratory. Never eat or drink from laboratory equipment. Never smoke in the laboratory.

17. Perform only those experiments authorized by your teacher. Do not work alone in the laboratory.

### First Aid or Emergencies

18. Report any accident to your teacher immediately, no matter how minor the accident might seem. Follow your teacher's recommendations for further treatment.
19. Report all fires to your teacher at once. Smother a clothing fire with a fire blanket, towel, or coat, or put it under a safety shower.
20. Know the locations of the fire extinguisher, safety shower, fire blanket, first aid kit, eyewash station, and other safety equipment. Learn how to use each item.
21. Know the shortest exit route from the laboratory, from the corridor, and from the school building.

### Handling Chemicals

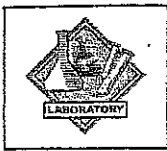
22. Read the labels on chemical containers and on reagent bottles twice. Bottles of darkened glass look very much alike; make sure that you are using the materials called for in the experiment. Label all containers into which you put materials.
23. Do not touch, taste, or smell chemicals that are in the laboratory unless directed to do so by your teacher. Do not sniff chemicals directly from the container. Waft fumes toward your nose by waving your hand over the mouth of the container.
24. Open chemical bottles only when you are ready to use the materials within them, and close the bottles quickly when you are done; moisture from the air might react with and spoil the chemicals. To avoid the contamination of the chemicals, do not return the unused chemicals to the bottle. Dispose of chemicals only as directed by your teacher.
25. Always pour an acid into water; never pour water into an acid.
26. Rinse any acid off your skin immediately by flushing the area with water. Notify your teacher at once.
27. Do not use your mouth to draw materials through a pipette; use a pipette bulb.
28. Never point the open end of a heated test tube toward yourself or anyone else.

### Handling Glassware

29. Do not use cracked, chipped, scored, or badly scratched glassware.
30. Never handle broken glass with your bare hands. Clean up the broken glass and dispose of it as directed by the teacher.
31. Always lubricate glassware (tubing, thermometers, etc.) with water or glycerin before attempting to insert it into a stopper. Never apply force when inserting or removing glassware from a stopper. Use a twisting motion.
32. Do not place hot glassware directly on the lab table. Always use an insulating pad of some sort.
33. Allow plenty of time for hot glass to cool before touching it. Remember that hot glass shows no visible signs of its temperature, and it can cause painful burns.

### Handling Living Organisms

34. Treat all microorganisms as if they were harmful. Use antiseptic procedures, as directed by your teacher, when working with microbes. Dispose of microbes as your teacher directs.
35. Treat living organisms carefully. Do not cause pain, discomfort, or injury to an organism. Follow your teacher's directions when handling animals. Wash your hands thoroughly after handling animals or their cages.
36. Wear gloves when handling small mammals. Report bites or stings to your teacher at once.



# LAB SAFETY CONTRACT

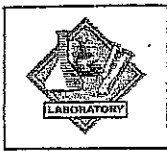
When you have read about laboratory safety and are sure that you understand all of the rules, sign and date the contract, ~~Return~~ it to your teacher. Your signatures on this contract indicate that you are aware of the safety rules for the science laboratory and intend to follow them at all times.

Student Printed Name \_\_\_\_\_

Period \_\_\_\_\_

Student Signature \_\_\_\_\_

Date \_\_\_\_\_



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