

# LPS Science Student Safety Rules

## Purpose

Science is a hands-on laboratory class. You will be doing many laboratory activities that require the use of hazardous chemicals. Safety in the science classroom is the #1 priority for students, teachers, and parents. To ensure a safe science classroom, a list of rules has been developed and provided to you. These rules must be followed at all times. This copy is to be kept by the student. After being instructed in these rules the student and the student's parents will sign a safety contract and return that contract to the teacher.

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## General Rules

1. Conduct yourself in a responsible manner at all times in the laboratory. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ask the instructor before proceeding.
3. Never work without instructor supervision.
4. When first entering a science classroom, do not touch any equipment, chemicals, or other lab materials until you are instructed to do so.
5. Do not eat food, drink beverages, or chew gum in the laboratory.
6. Unauthorized experiments are prohibited.
7. Be prepared for all laboratory-based activities. Read all procedures thoroughly before performing the laboratory procedure(s).
8. Laboratory work areas should be kept clean and tidy at all times. Only lab appropriate materials should be at the lab station(s).
9. Keep aisles clear. Push your chair/stool under the desk/lab station when not in use.
10. Know the locations and operating procedures of all safety equipment as demonstrated by the instructor. Know where the fire alarm and the exits are located.
11. Be alert at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
12. Dispose of all laboratory waste as directed. Never mix chemicals in sinks. Sinks are to be used only for water and those solutions designated by the instructor. Solid chemicals, metals, matches, filter paper, and all other insoluble materials are to be disposed of in the proper waste containers, not in the sink.
13. Labels must be read carefully before use. Set up and use the prescribed apparatus as directed.
14. Keep hands and all materials away from face, eyes, mouth and body while using chemicals or preserved specimens.
15. Clean all work surfaces and apparatus at the end of the experiment. Return all equipment to the designated area as directed by the instructor.
16. Wash your hands with soap and water after performing all experiments as directed.
17. Experiments must be personally monitored at all times. Do not wander around the room, distract other students, or interfere with the laboratory experiments of others.
18. Students are never permitted in the science storage rooms or preparation areas unless given specific permission by their instructor.
19. During a fire or fire drill, containers must be closed, gas valves, fume hoods, and electrical equipment must be turned off.
20. When using sharp instruments always grasp by the handles and carry with tips pointing down. Always cut away from your body and others. Never try to catch falling sharp instruments.
21. Never remove laboratory materials from the laboratory area.

## Clothing

22. Any time chemicals, biological materials, heat, or glassware are used, **students will wear laboratory goggles**. There will be no exceptions to this rule!
23. If you wear contact lenses inform your instructor.
24. Dress properly during laboratory activities. Long hair must be tied back. Dangling jewelry and loose or baggy clothing must be secured.

## Accidents and Injuries

25. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.
26. If a chemical splashes in your eye(s) or on your skin immediately notify the instructor and flush with running water according to instructor's direction(s).

## Handling Chemicals

27. Do not touch, taste, or smell any chemicals unless specifically instructed to do so. The proper technique for smelling chemical fumes will be demonstrated to you.
28. Check the label on chemical bottles twice before removing any of the contents. Take only as much chemical as you need.
29. Never return unused chemicals to their original containers.
30. When transferring reagents from one container to another, hold the containers away from your body.

31. Acids must be handled with care. Always use the proper method for diluting strong acids; add the acid to water, swirl or stir the solution and be careful of the heat produced, particularly with sulfuric acid.
32. Never dispense flammable liquids anywhere near an open flame or heat source.
33. Take great care when transporting chemicals from one part of the laboratory to another. Hold them securely and walk carefully.

### **Handling Glassware and Equipment**

34. Carry glass tubing, especially long pieces, in a vertical position to minimize the likelihood of breakage or injury.
35. Inform your teacher immediately if glassware is broken. Students should never handle broken glass.
36. Inserting and removing glass tubing from rubber stoppers can be dangerous. Lubricate glassware (tubing, thermometers, etc.) before attempting to insert it in a stopper. Always protect your hands with towels or gloves when inserting glass tubing into, or removing it from a rubber stopper. If a piece of glassware becomes "frozen" in a stopper, take it to your instructor for removal.
37. Fill wash bottles only with appropriate materials and use only as intended.
38. When removing an electrical plug from its socket, grasp the plug, not the electrical cord. Hands must be completely dry before touching an electrical switch, plug, or outlet.
39. Visually examine glassware before each use. Never use chipped, cracked or dirty glassware.
40. Report damaged electrical equipment immediately. Look for things such as frayed cords, exposed wires, and loose connections. Do not use damaged electrical equipment.
41. Always carry a microscope with both hands. Hold the microscope arm with one hand; place the other hand under the base.
42. If you do not understand how to use a piece of equipment, ask the instructor for help.
43. Do not use hot glassware with cold water; it may shatter.
44. Use appropriate procedures with electronic equipment, including balances.
45. Use appropriate eye protection and procedures when using any high-energy light source.

### **Heating Substances**

46. Use extreme caution with a gas burner. Take care that hair, clothing and hands are a safe distance from the flame at all times. Do not put any substance into the flame unless specifically instructed to do so. Never reach over an exposed flame. Light burners only as instructed.
47. Never leave a lit burner unattended. Never leave anything that is being heated or is visibly reacting unattended. Always turn the burner or hot plate off when not in use.

48. Use proper method for heating materials. When heating test tubes, do not point the open end of a test tube at yourself or anyone else.
49. Heated materials, especially glass and hot plates, may remain very hot for a long time. They should be set aside to cool and picked up with caution. Use tongs when necessary.
50. Never look into a container that is being heated.
51. Do not place hot apparatus directly on the laboratory desk. Always use an insulating pad.
52. When bending glass, allow time for the glass to cool before further handling. Hot and cold glass have the same visual appearance. Determine if an object is hot by bringing the back of your hand close to it before grasping it.

### **Living or Preserved Specimen**

53. Handle all animals with care and respect.
  - a. Open animal cages only with permission.
  - b. Never handle any animals without permission.
  - c. Do not take animals out of the designated area(s).
  - d. Do not tease or handle animals roughly.
  - e. Keep animals at a safe distance from other students.
  - f. When directed by instructor, wear gloves when handling animals.
  - g. Report any animal bite or scratch to the teacher immediately.
  - h. Wash hands after handling any animal.
54. Treat all preserved specimens and dissecting supplies with care and respect.
  - a. Do not remove preserved specimens from the designated area(s).
  - b. Use scalpels, scissors and other instruments only as instructed.
  - c. Never cut any material towards you or other students.
  - d. Report any cut or scratch to the instructor immediately.
  - e. Wash hands after handling any specimen or dissecting equipment.
55. Handle all specimen cultures with care and appropriate procedures.
  - a. All containers of microbial or DNA study organisms are to be closed when not in use.
  - b. Sterilize work area(s) before and after the lab.
  - c. Handle all microbes and DNA as if they are infectious.
  - d. Any collected sample must be labeled, sealed and remain sealed.
  - e. Gloves, goggles and gowns must be worn when instructed.
  - f. In case of culture spill, secure culture container, notify instructor and evacuate the immediate area.
  - g. Wash hands after handling any microbial or DNA sample.

# LPS SCIENCE STUDENT SAFETY CONTRACT

**Name:** \_\_\_\_\_ **Class** \_\_\_\_\_ **Period** \_\_\_\_\_

This contract is used in conjunction with the LPS Science Student Safety Rules. Turn in the completed contract to your science instructor. By checking each of these items, you are acknowledging that you have read and understand the following:

<b>Safety Reminders</b>	√
Follow all safety rules including the LPS Science Student Safety Rules	
Always conduct yourself in a mature and responsible manner	
Use lab equipment and materials only as directed by the instructor	
Wear appropriate eye protection and other protective gear when directed by instructor	
Place broken glass and disposables in appropriate designated containers	
Report any accident, incident, or unsafe situation to the teacher	
Never taste or touch lab materials without teacher direction	
Confine long hair and loose clothing whenever working in lab	
Use caution around flames and other heat sources	
Use appropriate behaviors when using electricity and electronic devices	
Clean lab equipment, lab area and return equipment to designated area	
Wash hands before leaving the lab	

<b>Location and proper use of the following safety equipment.</b>	√
Fire extinguisher, fire blanket and fire alarm	
Eye protective devices (goggles, face shields)	
Eyewash and chemical shower	
Broken glass and other waste container(s)	
Master shut-off for gas, electricity and water	
Heat sources (Bunsen burner, microwave oven, etc.)	
Emergency contact(s) (e.g. telephone, call button, nurse and main office)	

<b>Safety procedures for the following situations:</b>	√
Fire and/or fire drills	
Chemical spill and/or exposure	
Eye emergency	
Culture spill and/or exposure	
Burn	

# LPS SCIENCE STUDENT SAFETY CONTRACT

Name: \_\_\_\_\_ Class \_\_\_\_\_ Period \_\_\_\_\_

## To the Student:

This is to certify that I have been instructed in, have a copy of, understand and will follow the LPS science student safety rules. I will also follow any additional printed and oral instructions provided by the instructor. I understand that these rules are for my safety and the safety of others. I understand that if I choose not to comply with these rules, I am subject to removal from the science laboratory and the penalties that result from the removal.

Date: \_\_\_\_\_ Student: \_\_\_\_\_

## Important questions:

1. Do you wear contact lenses? yes \_\_\_\_\_, no \_\_\_\_\_

2. List any health concerns including asthma or specific allergies.

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3. List other physical conditions or limitations of which the instructor needs to be aware.

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## To the Parent/Guardian:

Your student will be working in the laboratory during this course. In order to assure their personal safety and the safety of others, it is important that all safety rules are followed. Failure to do so may result in your student being removed from the lab and any penalties that result from this removal. I understand these rules and agree that my student will abide by these and all other written and verbal instructions given in class.

Date: \_\_\_\_\_ Parent/Guardian: \_\_\_\_\_