

Appendix P

SAMPLE

PHYSICAL SCIENCE LABORATORY REGULATIONS WILLIAM S. HART SCHOOL DISTRICT

The following regulations have been compiled for the safety of students performing experimental work in physical science classes. Strict observance of the regulations is mandatory. All students in the school district are to follow these regulations, rather than any conflicting instructions in textbooks or laboratory manuals.

GENERAL

1. An instructor must be present during the performance of all laboratory work.
2. Prepare for each laboratory activity by reading all instructions before coming to class. Follow all directions implicitly and intelligently. Make a note of any modification in procedure given by the instructor.
3. Always approach laboratory experiences in a serious and courteous manner.
4. Use only those materials and equipment authorized by the instructor. The teacher must approve any science project or individually planned experiment.
5. Know the proper fire and earthquake drill procedures.
6. Roll long sleeves above the wrist. Long hanging necklaces, bulky jewelry, and excessive and bulky clothing should not be worn in the laboratory.
7. Confine long hair during a laboratory activity.
8. Wear shoes that cover the toes, rather than sandals, in the laboratory.
9. Wear appropriate eye protection, as directed by the instructor, whenever you are working in the laboratory. Safety goggles must be worn during hazardous activities involving corrosive/caustic chemicals, heating of liquids, and other activities that may injure the eyes.
10. Splashes and fumes from hazardous chemicals present a special danger to wearers of contact lenses. Therefore students should preferably wear regular glasses inside splash-proof goggles, when appropriate, during all class activities or purchase personal splash-proof goggles and wear them whenever exposure to chemicals or chemical fumes is possible.
11. Place books, purses, and such items in the designated storage area. Take only laboratory manuals and notebooks into the working area.
12. Report any accident to the teacher immediately, no matter how minor, including reporting any burn, scratch, cut, or corrosive liquid on skin or clothing.
13. Students with open skin wounds on hands must wear gloves or be excused from the laboratory activity.
14. Eating or drinking in the lab or from lab equipment is not permitted.
15. Students are not permitted in lab storage rooms or teachers' workroom without the approval of the teacher.

HANDLING EQUIPMENT

16. Inform the teacher immediately of any equipment not working properly.
17. Report broken glassware, including thermometers, to the instructor immediately.
18. Operate electrical equipment only in a dry area and with dry hands.
19. When removing an electrical plug from its socket, pull the plug, not the electrical cord.
20. When heating material in a test tube, do not look into the mouth of the tube or point it in the direction of any person during the process.
21. When working with lasers or apparatus that produce X-Rays, microwaves, or ultraviolet rays, make certain that proper shielding and other precautions are used.
22. Know the location of the emergency shower, eye and face wash fountain, fire blanket, fire extinguisher, fire alarm box, and exits.
23. Light gas burners only as instructed by the teacher. Be sure volatile materials (such as alcohol or acetone) are far from the burner flame.
24. Use a burner with extreme caution. Keep your head and clothing away from the flame and turn it off when not in use.
25. Use a fire blanket to extinguish any flame on a person. See stop, drop and roll procedure in Chapter 2, section C.
26. Use the fume hood whenever noxious, corrosive, or toxic fumes are produced or released.

27. To cut small-diameter glass tubing, use a file or tubing cutter to make a deep scratch. Wrap the tubing in a paper towel before breaking the glass away from you with your thumbs. Fire polish all broken ends.
28. When bending glass, allow time for the glass to cool before further handling. Hot and cold glass has the same visual appearance. Determine whether an object is hot by bringing the back of your hand close to the object.
29. Match hole size and tubing when inserting glass tubing into a stopper. If necessary, expand the hole first by using an appropriate size cork borer. Lubricate the stopper hold and glass tubing with water or glycerin to ease insertion, using towels to protect the hand. Carefully twist (never push) glass tubing into stopper holes.

HANDLING CHEMICALS

30. Check labels and equipment instructions carefully. Be sure correct items are used in the proper manner.
31. Be aware if the chemicals being used are hazardous. Know where the material safety sheet (MSDS) is and what it indicates for each of the hazardous chemicals you are using.
32. Never pour reagents back into bottles, exchange stoppers of bottles, or lay stoppers on the table.
33. When diluting acids, always pour acids into water, never the reverse. Combine the liquids slowly while stirring to distribute heat buildup throughout the mixture.
34. Keep hands away from face, eyes, and clothes while using solutions, specimens, equipment, or materials in the Laboratory.
35. To treat a burn from an acid or alkali, wash the affected area immediately with plenty of running water. If the eye is involved, irrigate it at the eyewash station without interruption for 15 minutes. Report the incident to your instructor immediately.
36. Never carry hot equipment or dangerous chemicals through a group of students.
37. Use a mechanical pipette filler (never the mouth) when measuring or transferring small quantities of liquid with a pipette.
38. Never taste anything or touch chemicals with the hands unless specifically instructed to do so.

39. Test for odor of chemicals only by waving your hand above the container and sniffing cautiously from a distance.

CLEANUP AND DISPOSAL

40. Be sure all glassware is clean before use. Clean glassware thoroughly after use. Residue may cause errors in new experiments or cause a violent reaction or explosion.
41. Keep work areas clean. Floors and aisles should be kept clear of equipment and materials.
42. Clean up any spill on the floor or workspace immediately.
43. Dispose of laboratory waste as instructed by the teacher. Use separate, designated containers (not the wastebasket) for the following:
 - Matches, litmus paper, wooden splints, toothpicks, and so on.
 - Broken and waste glass
 - Rags, paper towels, or other absorbent materials used in the cleanup of flammable solids or liquids
 - Hazardous/toxic liquids and solids
44. Remove all broken glass from the work area or floor as soon as possible. Never handle broken glass with bare hands; use a counter brush and dustpan.
45. Always clean the laboratory area before leaving.
46. Students and teacher wash hands with soap and water before leaving the laboratory area.

Note: Persistent or willful violation of these regulations or classroom rules and procedures during laboratory sessions will result in the loss of laboratory privileges and possible dismissal from the class. Please see the "Student Safety Contract—Chemistry" on the following page.