

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.

Students and parents are to read the regulations, sign the form, and return the form to the instructor. This procedure must be completed before a student can begin any laboratory activity. The student should keep a copy of the regulations in his or her notebook for future reference.

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 the appropriate eye protection, as directed by the instructor, whenever you are working in the laboratory. Safety goggles must be worn during hazardous activity involving caustic/corrosive 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 book, 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 laboratory or from laboratory equipment is not permitted.
15. Students are not permitted in laboratory storage rooms or teacher workrooms without the approval of 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 the 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 produces X-rays, microwaves, or ultraviolet rays, make certain that proper shielding and other precautions are used.
22. Know the location and operation of the emergency shower, eyewash 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 no volatile materials (such as alcohol or acetone) are being used nearby.

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 at ends.
28. When bending glass, allow time for 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 hole 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 data sheet (MSDS) is and what it indicates for each chemical of the hazardous chemicals you are using.
32. Never pour reagent back into bottles, exchange stoppers of bottles, or lay stoppers on table.
33. When diluting an acid, always pour acids into the water, never the reverse. Combine the liquids slowly while stirring to distribute the heat buildup throughout the mixture.
34. Strong acid spills can be cleaned up using sodium bicarbonate solutions. Strong base spills can be cleaned up using dilute acetic acid (vinegar).
35. Keeps hands away from face, eyes, and clothes while using solutions, specimens, equipment, or materials in the laboratory.
36. To treat a burn from an acid or alkali, wash the infected 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.
37. Never carry hot equipment or dangerous chemicals through a group of students.
38. Use a mechanical pipette filler (never the mouth) when measuring or transferring small quantities of liquid with a pipette.
39. Never taste anything or touch chemicals with the hands unless specifically instructed to do so.
40. Test for odor of chemicals only by waving your hand above the container and sniffing cautiously from a distance.

Cleanup and Disposal

41. 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.
42. Keep work areas clean. Floors and aisles should be kept clear of equipment and materials.
43. Clean up any spill on the floor or workspace immediately.
44. Dispose of laboratory equipment waste as instructed by the teacher. Use separate, designated containers (not the waste bucket) 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 the flammable solids or liquids.
 - Hazardous/toxic liquids and solids.
45. 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.
46. Always clean the laboratory area before leaving.
47. Students and teacher wash hands with soap and water before leaving the laboratory area.

NOTE: *Persistent or willful violation of the regulations will result in the loss of laboratory privileges and possible dismissal from class.*