

## CHEMISTRY LABORATORY REGULATIONS AND SAFETY CONTRACT

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 and return the signed portion of 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. A Safety Quiz must be completed and passed with an 85% or better and corrections made and initialed, before a student is eligible to perform a laboratory experiment. Failure to pass the quiz within the required time frame will result in no credit earned for labs missed.**

### 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, prepare a flowchart, follow all directions implicitly and intelligently. Take micronotes 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. Any science project or individually planned experiment must be approved by the teacher.
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 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 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 laboratory or from laboratory equipment is not permitted.
15. Students are not permitted in laboratory storage rooms or teachers' workrooms 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 and operation of the emergency shower, eyewash and facewash 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)
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 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 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 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 wafting, 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 the regulations will result in the loss of laboratory privileges, possible dismissal from the class and will adversely affect your grade!**

# CHINO VALLEY UNIFIED SCHOOL DISTRICT SCIENCE SAFETY CONTRACT GRADES 7-12

The science teachers of the Chino Valley Unified School District, in alignment with the National Science Teachers Association, urge that students be required to review and sign a contract that defines acceptable behavior in a school science setting. The teacher will cover the contract with the student to make the student aware of the basic rules and their definitions. The student reviews these basic rules plus a more detailed set of rules within the classroom and then is tested on them. The student will pass the test with a minimum score of 85% and hand corrects the missed items, before he/she begins lab activities. The student then signs the contract agreeing to abide by these rules and any additional safety directions provided by the science instructor or school administration.

## THE PURPOSE OF THE CONTRACT IS TO MAKE THE STUDENT AWARE OF HIS/HER RESPONSIBILITY FOR LABORATORY SAFETY.

Students should also realize the implications of improper behavior. For example, courts have ruled that students can be just as guilty of negligence as teachers in laboratory accidents.

I \_\_\_\_\_ WILL:  
(student's name)

1. Follow all instructions given by the teacher
2. Protect eyes, face, hands and body when involved in science experiments.
3. Carry out good housekeeping practices.
4. Know where to get help fast.
5. Know the location of: first aid, eyewash, fire blanket, fire exits, fire pulls, fire extinguisher, safety shower, lab aprons and goggles.
6. Conduct myself in a responsible manner at all times.

We have read and understand the Ayala Chemistry Safety Lab Regulations. I, (the student), will abide by the Lab Regulations and any additional Safety Rules that the instructor may impose. I, (the student), will conduct myself in a mature and responsible manner when conducting lab activities. I/we understand that the student may forfeit the lab or be removed from the class for violating any of the safety regulations.

Student's Name (print) \_\_\_\_\_ Period \_\_\_\_\_

Student's Signature \_\_\_\_\_ Date \_\_\_\_\_

Parent Signature \_\_\_\_\_ Date \_\_\_\_\_

**RETURN BY: FRIDAY, SEPTEMBER 05, 2008**

*For teacher use only:*

Safety quiz passed  
\_\_\_ 1<sup>st</sup> try  
\_\_\_ 2<sup>nd</sup> try  
\_\_\_ other

Expectations signed and returned:  
\_\_\_ early \_\_\_ on time \_\_\_ late  
comments:

Student information complete?  
\_\_\_ yes \_\_\_ no \_\_\_ did not do