



## APPENDIX I

### PYLUUSD First Aid Information (With all injuries, notify your instructor immediately!)

Injury	Safe Response
<b>Fire</b>	<p>If clothing should catch fire, the student should not run! <b>Stop, Drop and Roll. Cover the person with a fire blanket immediately.</b></p> <p>If a chemical fire starts <b>Do Not Run and Do Not Panic. Cover the fire with a safety blanket, or use the fire extinguisher. When the fire is out wash the affected area with water.</b></p>
<b>Burns</b>	Flush with water.
<b>Cuts and Bruises</b>	Follow the instructions in the first aid kit. Report to the school nurse.
<b>Fainting and Collapsing</b>	Provide person with fresh air. Have the person recline so that their head is lower than their body. Start CPR if necessary.
<b>Foreign Matter in the Eye</b>	Flush with plenty of water. Use eyewash bottle or fountain.
<b>Poisoning</b>	Note the suspected poisoning agent and tell the instructor.
<b>Severe Bleeding</b>	Apply pressure with a compress directly to wound and get medical attention.
<b>Spills on Skin</b>  <b>Acid Spills</b>  <b>Base Spills</b>	Flush with water or use safety shower.  Apply baking soda.  Apply boric acid.



## PYLUSD SAFETY REGULATIONS FOR HIGH SCHOOL SCIENCE STUDENTS

While working in the science laboratory, you will have certain important responsibilities that do not apply to other classrooms. You will be working with materials and apparatus which, if handled carelessly or improperly, have the potential to cause injury or discomfort to someone else as well as yourself. A science laboratory can be a safe place in which to work if you, the student, are alert and cautious.

The following practices **will be** followed:

### General Guidelines:

1. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ask the instructor before proceeding. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
2. Report any accident or unsafe conditions to the teacher immediately, no matter how minor, including reporting any burn, scratch, cut, or corrosive liquid on skin or clothing.
3. Prepare for each laboratory activity by reading all instructions before coming to class. When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so. Follow all directions implicitly and intelligently. Make note of any modification in procedure given by the instructor.
4. Any science project or individually planned experiment must be approved by the teacher. Never work alone. No student may work in the laboratory without an instructor present. Unauthorized experiments are prohibited.
5. No student may take, borrow or remove any equipment, supplies or chemicals from the laboratory.
6. Experiments must be personally monitored at all times. You will be assigned a laboratory station at which to work. Do not wander around the room, distract other students, or interfere with the laboratory experiments of others.
7. Clean up any non-hazardous spill on the floor or work space immediately.
8. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverage. Never taste anything or touch chemicals with the hands, unless specifically instructed to do so.
9. Observe good housekeeping practices. Place books, purses, and such items in the designated area. Take only laboratory instructions, worksheets, reports and/or notebooks into the working area.
10. Students are not permitted in laboratory storage rooms or teachers' workrooms without the approval of the teacher.
11. Treat all animals in the science laboratory humanely; that is, with respect and consideration for their care.
12. Always approach laboratory experiences in a serious and courteous manner.
13. Always clean the laboratory area before leaving.
14. Students and teacher wash hands with soap and water before leaving the laboratory area.

### **Accidents and Injuries:**

15. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.
16. Keep hands away from face, eyes, and clothes while using solutions, specimens, equipment, or materials in the laboratory. Wash hands as necessary and wash thoroughly at the conclusion of the laboratory period.
17. 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.
18. If a chemical should splash in your eye(s) or on your skin, immediately flush with running water from the eyewash station or safety shower for at least 20 minutes.
19. Know the locations and operating procedures of all safety equipment including the first aid kit, the emergency shower, the eyewash station, fire blanket, fire extinguisher, fire alarm box, and location of the exits.
20. Know the proper fire- and earthquake-drill procedures. Containers must be closed, gas valves turned off, fume hoods turned off, and any electrical equipment turned off.
21. Keep work areas clean. Floors and aisles should be kept clear of equipment and materials. Keep aisles clear. Push your chair under the desk when not in use.

### **Clothing and Eye Wear:**

22. 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.
23. 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. Notify your instructor if you wear contact lenses.
24. Students with open skin wounds on hands must wear gloves.
25. Lab aprons should be worn during laboratory activities.
26. Dress properly during a laboratory activity. Roll long sleeves above the wrist. Long hair, dangling necklaces, bulky jewelry, and excessively loose and bulky clothing should not be worn in the laboratory.
27. Wear closed toed shoes in the laboratory.

### **Equipment and Materials:**

28. Use only those materials and equipment authorized by the instructor. If you do not understand how to use a piece of equipment, ask the instructor for help.
29. Inform the teacher immediately of any equipment not working properly. Report damaged electrical equipment immediately. Look for things such as frayed cords, exposed wires, and loose connections. Do not use damaged electrical equipment.
30. Operate electrical equipment only in a dry area and with dry hands.

31. When removing an electrical plug from its socket, pull the plug, not the electrical cord.
32. Always work in a well-ventilated area. Use the fume hood when working with volatile substances or poisonous vapors. Never place your head into the fume hood.
33. Labels and equipment instructions must be read carefully before use. Set up and use the prescribed apparatus as directed in the laboratory instructions or by your instructor.
34. Wash your hands with soap and water after performing all experiments. Clean with detergent, rinse, and wipe dry all work surfaces including the sink and apparatus at the end of the experiment. Return all equipment clean and in working order to the proper storage area per your instructor's directions.

### **Heating Substances:**

35. Light gas burners only as instructed by the teacher. Be sure no volatile materials (such as alcohol or acetone) are being used nearby.
36. You will be instructed in the proper method of heating and boiling liquids in test tubes. Do not point the open end of a test tube being heated at yourself or anyone else.
37. Use a burner with extreme caution. Keep your head and clothing away from the flame and turn it off when not in use. Never look into a container that is being heated. Do not put any substance into the flame unless specifically instructed to do so. Never reach over an exposed flame. Light gas (or alcohol) burners only as instructed by the teacher.
38. Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution. Use heat-protective gloves if necessary. Do not place hot apparatus directly on the laboratory desk. Always use an insulating pad. Allow plenty of time for hot apparatus to cool before touching it. Use heat-protective gloves if necessary.
39. Never leave a lit burner unattended. Never leave anything that is being heated or is visibly reacting unattended. Always turn the burner off when not in use.

### **Handling Glassware and Equipment:**

40. Examine glassware before each use. Never use chipped or cracked glassware. Never use dirty glassware.
41. Carry glass tubing, especially long pieces, in a vertical position to minimize the likelihood of breakage and injury.
42. 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.
43. When bending glass, allow time for the glass to cool before further handling. Hot and cold glass have the same visual appearance. Determine whether an object is hot by bringing the back of your hand close to the object. Do not immerse hot glassware in cold water; it may shatter.
44. Inserting and removing glass tubing from rubber stoppers is dangerous. Always protect your hands with towels or cotton 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. Match hole sizes 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.
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. Place broken or waste glassware in the designated glass disposal container.

46. Report broken glassware, including thermometers, to the instructor immediately.

47. Follow the instructor's guidelines when cleaning glassware.

### Handling Chemicals:

48. Keep hands away from face, eyes, mouth and body while using chemicals or preserved specimens.

49. Never carry hot equipment or dangerous chemicals through a group of students. Take great care when transferring acids and other chemicals from one part of the laboratory to another. Hold them securely and walk carefully.

50. Check labels and equipment instructions carefully. Be sure correct items are used in the proper manner. Check the labels twice before removing any of the contents. Take only as much chemical as you need. Never return unused chemicals to their original containers.

51. 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.

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

53. Use a mechanical pipette filler (never the mouth) when measuring or transferring small quantities of liquid with a pipette. Use a rubber bulb or pipette pump.

54. When heating material in a test tube, do not look into the tube or point it in the direction of any person during the process.

55. Never pour reagents back into bottles, exchange stoppers of bottles, or lay stoppers on the table.

56. Acids must be handled with extreme care. When diluting acids, always pour acids into water, never the reverse. Combine the liquids slowly while stirring to distribute heat buildup throughout the mixture.

57. Handle flammable hazardous liquids over a pan to contain spills. Never dispense flammable liquids anywhere near an open flame or source of heat.

58. Never remove chemicals or other materials from the laboratory area.

59. Use a fire blanket (stop, drop, and roll) to extinguish any flame on a person.

60. 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

61. Never mix chemicals in sink drains. Sinks are to be used only for water and those solutions designated by the instructor. Check the label of all waste containers twice before adding your chemical waste to the container.

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



## PYLUUSD Student Science Safety Contract for High Schools

School: \_\_\_\_\_ Teacher: \_\_\_\_\_ Date: \_\_\_\_\_

Student's name: \_\_\_\_\_

- The student has received specific instruction regarding the use, function, and location of the following:
  - Aprons, gloves
  - Chemical Spill Kit
  - Eye-protective devices (goggles, face and/or safety shield)
  - Eye wash fountain, drench spray and drench shower
  - Fire blanket
  - Fire extinguisher
  - First aid kit
  - Heat sources and techniques in their use
  - Material Safety Data Sheets (MSDS's)
  - Telephone for emergency use only
  - Waste-disposal containers for glass, chemicals, match paper, wood
- The student will abide by the "Safety Regulations for High School Science Students" to prevent accidents and injury to herself or himself and others and will:
  - Follow all additional written and oral instructions given by the teacher.
  - Conduct herself or himself in a responsible manner at all times in the laboratory.
- List below any special allergies or sensitivities (e.g., to plants, animals, pollen, foods, chemicals, bee stings, latex) that may affect the student's safety in the laboratory or on field trips:  
\_\_\_\_\_  
\_\_\_\_\_
- Check this box if the student wears contact lenses:
- Check this box if the student is colorblind:

### Student's Statements:

I understand that the school science class is a workshop for serious study. I understand that anyone working in a science laboratory must follow and practice safety regulation. I have in my possession and have read the "Safety Regulations for High School Science Students." I agree to abide by these regulations at all times while in the laboratory. Furthermore, I agree to abide by an additional printed or verbal instructions provided by my teacher or school district during the school year. I have received specific safety instructions as indicated above.

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

\_\_\_\_\_  
Date Signed

### Parent's or Guardian's Statement:

I have read the "Safety Regulations for High School Science Students" and give my consent for the student who has signed the preceding statement to engage in laboratory activities using a variety of science equipment and materials, including those described. I pledge my cooperation in urging that she or he observe the safety regulations prescribed.

\_\_\_\_\_  
Signature of Parent or Guardian

\_\_\_\_\_  
Date Signed

Return the completed and signed form to \_\_\_\_\_ by \_\_\_\_\_.