

STUDENT LAB SAFETY CONTRACT

PHS Science Department

PURPOSE

The Science curriculum at Prosper High School is a hands-on laboratory experience. Students will be asked to participate in some activities which require the use of hazardous chemicals and/or potentially dangerous equipment. Safety in the science classroom is the #1 priority for students, teachers, parents, and guardians and is the responsibility of all parties. To ensure a safe science classroom, a list of guidelines has been developed and provided to you in this student safety contract. These rules must be followed at all times. Many of these rules are general, common sense practices, while others are specific to certain classroom environments. Instructors will provide specific and appropriate training as the year progresses. We ask that you read through the rules carefully and sign a contract agreeing to abide by these guidelines in order to safely participate in our curriculum. **PLEASE RETAIN THE FIRST THREE PAGES OF THIS DOCUMENT AND RETURN THE SIGNED AGREEMENT ON THE LAST PAGE TO YOUR SCIENCE TEACHER ON THE FIRST DAY OF CLASSES.**

GENERAL GUIDELINES

1. Conduct yourself in a responsible manner at all times in the laboratory.
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 alone. No student may work in the laboratory without an instructor present.
4. 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.
5. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
6. Perform only those experiments authorized by the instructor. Never do anything in the laboratory that is not called for in the laboratory procedures or by your instructor. Carefully follow all instructions, both written and oral: Unauthorized experiments are prohibited.
7. Be prepared for your work in the laboratory. Read all procedures thoroughly before entering the laboratory. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
8. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times. Bring only your laboratory instructions, worksheets, and/or reports to the work area. Other materials (books, purses, backpacks etc.) should be stored in the classroom area.
9. Keep aisles clear. Push your chair under the desk when not in use.
10. Know the locations and operating procedures of all safety equipment including the first aid kit, eyewash station, safety shower, fire extinguisher, and fire blanket. Know where the fire alarm and the exits are located.
11. 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.
12. Be alert and proceed with caution at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
13. Dispose of all chemical waste properly. Never mix chemicals in sink drains. 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.
14. 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.
15. Keep hands away from face, eyes, mouth and body while using chemicals or preserved specimens. 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.
16. Experiments must be personally monitored at all times. You will be assigned a laboratory station or area at which to work. Do not wander around the room, distract other students, or interfere with the laboratory experiments of others.
17. Students are never permitted in the science storage room or preparation room unless given specific permission by their instructor.
18. Know what to do if there is a fire drill during a laboratory period; containers must be closed, gas valves turned off, fume hoods turned off, any electrical equipment turned off.
19. Handle all living organisms used in a laboratory activity in a humane manner. Preserved biological materials are to be treated with respect and disposed of properly.

20. When using knives and other sharp instruments, always carry with tips and points pointing down and away. Always cut away from your body. Never try to catch falling sharp instruments. Grab sharp instruments only by the handles.

CLOTHING

21. Any time chemicals, heat or glassware are used, students will wear laboratory goggles. There will be no exceptions to this rule!
22. Dress properly during a laboratory activity. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back and dangling jewelry and loose or baggy clothing must be secured. Shoes should completely cover the foot. Appropriate foot-ware as required by the teacher.
23. Lab aprons have been provided for your use and should be worn during laboratory activities.

ACCIDENTS AND INJURIES

24. Report any accidents (spill, breakage, etc.) or injury (cut, burn, etc) to the instructor **immediately**, no matter how trivial it may appear.
25. 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. Notify the instructor immediately.

HANDLING CHEMICALS

26. All chemicals in the laboratory are to be considered dangerous. 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.
27. Check the label on chemical bottles twice before removing any of the contents. Take only as much chemical as you need.
28. Never return unused chemicals to their original containers.
29. Never use mouth suction to fill a pipet. Use a rubber bulb or pipet pump.
30. When transferring reagents from one container to another, hold the containers away from your body.
31. Acids must be handled with extreme care. You will be shown the proper method for diluting strong acid. Always add acid to water, swirl or stir the solution and be careful of the heat produced, particularly with sulfuric acid.
32. Handle flammable hazardous liquids over a pan to contain spills. Never dispense flammable liquids anywhere near an open flame or source of heat.
33. Never remove chemicals or other materials from the laboratory area.
34. Take great care when transferring acids and other chemicals from one part of the laboratory to another. Hold them securely and walk carefully.

HANDLING GLASSWARE AND EQUIPMENT

35. Carry glass tubing, especially long pieces, in a vertical position to minimize the likelihood of breakage and injury.
36. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken or waste glassware in the designated glass disposal container.
37. Inserting and removing glass tubing from rubber stoppers can be dangerous. Always lubricate glassware before attempting to insert it in a stopper. 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.
38. Fill wash bottles only with distilled water and use only as intended, e.g., rinsing glassware and equipment, or adding water to a container.
39. When removing 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.
40. Examine glassware before each use. Never use chipped or cracked glassware. Never use dirty glassware.
41. Report damaged electrical equipment immediately. Look for things such as frayed cords, exposed wires, and loose connections. Do not use damaged electrical equipment.
42. If you do not understand how to use a piece of equipment, ask the instructor for help.
43. Do not immerse hot glassware in cold water; it may shatter.

HEATING SUBSTANCES

44. Exercise extreme caution when using 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 gas (or alcohol) burners only as instructed by the teacher.
45. 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.
46. 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.
47. Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution. Use tongs or heat-protective gloves if necessary.

48. Never look into a container that is being heated.
49. 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.
50. When bending glass, allow time for the glass to cool before further handling. Hot and cold glass has the same visual appearance. Determine if an object is hot by bringing the back of your hand close to it prior to grasping it.

ELECTRICITY & LASERS

51. Never touch an electrical demonstration apparatus without approval from an instructor and only then after grounding the apparatus to ensure that it is functioning properly.
52. Students with known heart, respiratory, and neurological disorders should refrain from participation in static electricity experiments and demonstrations without prior approval from a medical professional.
53. Never handle any electric equipment, including low voltage equipment, with wet skin.
54. Never handle any electric equipment if you have open wounds on your hands and arms.
55. Never handle live electrical wires and components if you are unsure of their voltage.
56. Never point a laser at another person or look directly into a laser. Even brief exposure can produce permanent optic damage. Use proper safety glasses and protective equipment in the presence of high energy lasers.

DISSECTION / PRESERVED SPECIMENS / PREPARED SPECIMENS

57. Inform your instructor immediately if you appear to have an allergic response to specimens or preservatives.
58. Handle biological specimens and preservative liquids with the same care and caution as other chemicals.
59. Use appropriate procedures and care when utilizing dissecting equipment. Under no circumstances should sharp equipment be pointed at another student or used in a careless manner.
60. Never use laboratory instruments to create permanent markings on school property.
61. Follow safe disposal procedures when utilizing sharps (e.g., needles, scalpel blades).
62. Dispose of specimens according to your instructor's guidelines. Biological specimens and liquids should NEVER be thrown in the garbage/disposed of down the sink without instructor approval.
63. Handle all specimens with care and respect.

HUMAN PERFORMANCE AS PART OF AN EXPERIMENT

64. Some laboratory activities may involve direct testing of students (e.g., timing a student while running a specified distance) or student exposure to unpleasant sensations (e.g., non-hazardous smells or chemical odors examined as part of a lab or exposure to minor, non-hazardous electric shock). Instructors will provide safety instructions prior to allowing students to participate in these type of activities. Students may elect to decline participation in these activities. It is the responsibility of the student to inform the instructor if they do not wish to participate. In some cases an alternate learning experience may not be available and the student will still be academically responsible for the theory behind such activities.

ACCESS TO STORAGE AND PREPARATION AREAS

65. Students who are not designated laboratory assistants are neither allowed to enter nor have access to storage and preparation areas within and adjacent to the laboratory and classroom without authorization and supervision. Students working in these areas with approval must take great care to avoid contact with areas and materials not relevant to their assigned task and must never take or use any equipment except what they have been instructed to use.

CLEANUP

66. Cleaning of the lab and lab equipment is the responsibility of everyone. A dirty laboratory is unsafe. Students will follow their instructor's guidelines on cleaning and organizing the laboratory and equipment after use.
67. All participants should wash their hands thoroughly after every activity, including those that do not use chemicals and biological agents.

In addition to these general guidelines, ALWAYS abide by any additional safety procedures provided by your instructor at the time of an activity.

Dear Students, Parents, and Guardians,

The Prosper High School Science Department feels that you should be informed regarding the school's effort to create and maintain a safe science classroom/laboratory environment. With the cooperation of the instructors, parents, and students, a safety instruction program can eliminate, prevent, and correct possible hazards. Please take the time to familiarize yourself with the guidelines established in the *Student Lab Safety Contract*. Keep the guidelines for your records (some teachers may request your child maintain these in their class notebooks) and return only this page.

After reading the Student Lab Safety Contract, please complete the questions below and sign this agreement. Return this form to your science teacher on the first day of school.

QUESTIONS

- 1. Do you wear contact lenses? YES NO
- 2. Are you color blind? YES NO
- 3. Do you have any allergies? YES NO
 If YES, list specific allergies:

- 4. Do you have any known heart, respiratory, or neurological disorders which may preclude your participation in demonstrations of electrostatic phenomena (Item 52)? YES NO

STUDENT AGREEMENT

I, _____ (student's name) have read and agree to follow all of the safety rules set forth in the Student Lab Safety Contract. I realize that I must obey these rules to insure my own safety, and that of my fellow students and instructors. I will cooperate to the fullest extent with my instructor and fellow students to maintain a safe lab environment. I will also closely follow any oral and written instructions additionally provided by the instructor as part of a specific activity. **I am aware that any violation of this safety contract that results in unsafe conduct in the laboratory or misbehavior on my part, may result in being removed from the laboratory, detention, receiving a failing grade, and/or dismissal from the course, as well as a requirement to provide financial restitution for equipment and supplies damaged through misuse.**

Further, I acknowledge and agree to the following:

- I have received a printed copy, or the address of an electronic copy, of the Science Laboratory Safety Guidelines.
- I have read carefully and understand all of the Science Laboratory Safety Guidelines provided to me.
- I understand that I am responsible for following the Science Laboratory Safety Guidelines at all times.
- I understand that my safety and the safety of my classmates depend on my actions in the science laboratory.
- I understand that failure to follow these Science Laboratory Safety Guidelines could result in a serious accident or injury.
- I understand that students who do not follow the Science Laboratory Safety Guidelines may be asked to leave the laboratory and will receive no credit for the missed exercise or assignment. Violations of the Science Laboratory Safety Guidelines could result in disciplinary sanctions, which can include expulsion.
- I am aware that science laboratories contain materials which, if handled improperly, may be hazardous, particularly for students with chronic medical issues or students who are pregnant or nursing. I will consult my physician or health care provider about potential risks associated with the laboratory if I have a medical issue or concern.

Print Student Name

Student signature

Date

Parent or Guardian,

Your signature on this contract indicates that you have read this Student Lab Safety Contract, are aware of the measures taken to insure the safety of your son/daughter in the science laboratory, and will instruct your son/daughter to uphold his/her agreement to follow these rules and procedures in the laboratory.

Print Parent/Guardian Name

Parent/Guardian signature

Date