



# Chemistry

Name: \_\_\_\_\_

Section \_\_\_\_\_ SAFETY AGREEMENT Date: \_\_\_\_\_

## Lab Safety Is No Accident

### Statement

Chemistry is a hands-on laboratory class. This means that you will be doing many lab exercises designed to enrich your participation and understanding of the science of chemistry. To ensure your safety, you must commit yourself from the outset to be responsible at all times for knowing techniques and procedures that will allow you to handle chemicals and equipment without danger of injury. Many items may seem like "common sense" but simply reviewing them now helps all of us to place your safety as a top priority. Other items or techniques are not common knowledge and should be reviewed often to help you maintain a safe environment for your classmates, your instructor, and yourself. Constant vigilance on your part is a major part of keeping the class safe for all. So that you may review these items often, the first pages should be kept in your notebook at all times. The final page should be returned to the instructor after you and your parents or guardian have read the entire agreement and signed this last page.

### General Rules

1. Be responsible at all times.
2. NEVER WORK ALONE. No student may work in the laboratory without an instructor present.
3. On lab days, first be seated in the classroom and await final instructions. Do not touch any equipment or chemicals until you are told to do so.
4. Students are not permitted in the stockroom under any circumstances.
5. No unauthorized experimenting! Never perform any work or procedure that is not directed by either the lab instructions or the instructor.
6. Do follow all written and verbal instructions carefully. If you have a question about any procedure, ask first.
7. Remember the ABC of lab safety: Always Be Careful. Be alert, use caution, and notify the instructor immediately if you observe any potential hazards.
8. Horseplay is strictly forbidden. The material you spray may be only water, but another student may be carrying dangerous materials and may slip on the wet floor.
9. Prepare for labs by outlining the procedure with a plan in mind. Read ahead with safety in mind. Order matters: look for things like hot water baths and start these first. Having to rush during a lab experiment accounts for a great number of lab accidents.
10. Keep your hands away from your face, eyes, and the rest of your body when handling chemicals. Wear gloves and wash them often.
11. Clear your workspace. Keep unnecessary books, papers, and clothes off the lab benches. Bring only your lab instructions and worksheets to your work station. CLEAN all your apparatus and your bench top before and after each work period.

12. Identify all the safety equipment in the room: shower, eye wash, first-aid kit, fire extinguisher, and fire blanket. Know the location of the fire alarm and fire exits.
13. Maintain a clear path to all safety equipment. Do not bring chairs into the lab area.
14. Know what to do if a fire drill occurs during the lab period. All containers must be closed, all gas valves must be turned off, and any electrical equipment must be turned off before leaving the room.
15. Avoid unnecessary movement and talking. Do not bump others. Talking often results in not hearing verbal instructions. Do not distract or otherwise interfere with another student's experiment.
16. Unattended experiments result in accidents. You and your partner must personally monitor your experiment at all times.
17. Use proper ventilation. Use the fume hood when working with volatile liquids or toxic vapors. Never place your head in the fume hood. Do lower the hood to increase the air speed and protect your face.
18. Know and use proper lab techniques (always ask how to use any unfamiliar equipment) and know equipment names (if you don't know the name of equipment, always ask). Know the difference between quick measures and time consuming, high precision procedures.
19. Read all labels and instructions on equipment carefully before proceeding. Always assemble equipment as prescribed in the lab instructions.
20. Always label everything, especially trial numbers.
21. Maintain a lab notebook with all data and observations. You will be far less likely to lose data if you have it in a notebook dedicated to chemistry labs.
22. Wash aprons and gloves at the end of the period or if they come into contact with chemicals. Wash your hands before leaving the room.
23. Don't fall behind lab reports and don't miss lab days.

### **Dress**

24. Appropriate dress is required on lab days (visitors must also dress appropriately): a lab coat or apron, eye safety goggles, and protective shoes are required. Loose hair should be tied back, avoid hanging jewelry or baggy clothes, and do not wear sandals on lab days. Goggles must be worn any time chemicals, heat, or glassware are in use.
25. Contact lenses may be worn with permission from the instructor. You must put an identification sticker on your goggles each lab period when you are wearing contacts.

### **Safe Use of Chemicals**

26. Never taste laboratory materials. Do not touch or smell chemicals unless instructed to do so. Never chew gum, eat food, or drink in the chemistry room. Never use laboratory glassware for food or beverages.
27. Waft vapors to your nose when instructed to smell a reaction or product.
28. Do not return unused or excess material to reagent jars unless instructed to do so.
29. Read the labels on chemicals twice before removing any of the contents. Only take the amount you need. Waste is expensive in time, money, and in damages to the environment.
30. Never mouth pipet. Use a bulb or pipet pump to fill pipets.

31. Always transfer chemicals holding them away from your body. Perform the transfers over a sink or a large beaker to contain any accidental spills.
32. Use special care when transporting caustic chemicals like acids or bases. Walk carefully.
33. Always dilute acids by adding acid to water. (Do as you oughtah, add acid to watah.)
34. Discard used chemicals properly. Do not allow chemicals to mix in the sinks. Use the sinks to dispose of only those chemicals the instructor specifically designates as safe. If in doubt, ask.
35. Never place solids, metals, matches, paper or any insoluble material in the sink.
36. Return all supplies in clean, orderly fashion. Chemical storage bottles often leave a drip on the lip which must be removed with a paper towel. Prompt return of chemicals allows others to complete work.
37. Shut off all water, gas, and electrical equipment before leaving your lab area.
38. Never remove chemicals or equipment from the laboratory area.

### **Safe Use of Glass and other Apparatus**

39. Carry long pieces of glass tubing in a vertical position to avoid breakage and injury.
40. Do not immerse hot glassware in cold water. It may shatter and cause injury.
41. Never use chipped, cracked or broken glassware. Inspect glass tubing for sharp ends before use. Do not use dirty glassware unless instructed to do so.
42. Report breakage to your instructor. Do not handle broken glass with your bare hand. Use a brush and dustpan and dispose of broken glass in the designated container.
43. Inserting and removing thermometers and glass tubing from rubber stoppers is a potential hazard. Always lubricate the glass with soap or glycerol. Use specified gloves or towelings to protect your hands. Use small movements keeping the hands close to the stopper. Ask the instructor to help if the glassware does not manipulate easily.
44. Fill wash bottles with the liquid on the designated label only. Never put tap water in a distilled water bottle. Use wash bottles only as directed.
45. Turn off the balances before unplugging them. Failure to do so may result in permanent damage to the balance. Never place more than the specified maximum load on any balance. Never push on a balance pan with your hand or add any heavy weight.
46. Always grasp the plug to remove electrical equipment from the socket. Pulling the wire may result in damage or injury.
47. Report damaged wires or equipment to the instructor immediately. Do not use damaged equipment or equipment with frayed or damaged plugs or wires.
48. If you do not understand any piece of equipment or apparatus, ask the instructor for an explanation.

### **When Heating**

49. Use special care with Tirrill burners. Watch loose hair or clothes. Watch for flammable chemicals and chemical vapors; many vapors creep along surfaces. Never reach over a burner.

50. Do not leave a lighted burner, a substance that is being heated, or any visibly reacting material unattended. Turn burners off when not in use, the flames are very difficult to see.
51. Test tubes: heat from the side, not the bottom; view from the side, not the top; always point tubes away from yourself and others. Never view any item that is being heated from above.
52. After bending or heating glassware, remember that hot glass looks like cool glass and hot glass stays hot forever. Use similar care with heated metals, especially rings, clamps, stands, and burners.
53. Never place hot items directly on the bench or into the bench drawers. Place them on a ceramic pad until they cool. Always presume items on a ceramic pad are hot. Bring the back of your hand near an item to determine if it is still hot.

### **In Case of Accident**

54. Report all accidents (spills, breakage, etc.) or any injury (cut, scratch, chemical burn, skin reaction, etc.) to the instructor immediately.
55. Minor burns should be held under cold, running water. Once you have the burn under cold water, have your lab partner notify the instructor immediately.
56. In the event of a chemical hazard or injury to yourself or your partner, yell to get the instructor's attention. Do not politely stand in line or wait for the instructor to notice you.
57. Chemical spills to skin or clothes should be rinsed with plenty of water. Eyes should be rinsed for 10 to 15 minutes or until professional assistance arrives.
58. All the mercury thermometers (silvery) in our lab should have been replaced with spirit or alcohol (red) thermometers. If you find a mercury thermometer, ask for a replacement. If a mercury thermometer should break, do not touch the mercury. Notify the instructor immediately.

### **Special Considerations**

59. If you have any special considerations the instructor should know about such as being color blind, specific allergies, or wearing contact lenses, please be sure to fill out the special considerations section of the safety agreement on the following page.



# Chemistry

Section \_\_\_\_\_

SAFETY AGREEMENT

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

## Chemistry Safety Agreement

I understand the Laboratory Safety Rules and will do my best to make the lab a safe place to work and learn for both my fellow students and myself. I will do my best to cooperate with the instructor and my fellow students to maintain a safe laboratory environment. I will closely follow all written and oral instructions provided by the instructor. I am aware that violation of any part of this agreement, misbehavior on my part, or any unsafe conduct may result in being removed from the laboratory, receiving a failing grade, and/or a parent-teacher conference to discuss appropriate action.

Student

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

Dear Parent or Guardian:

We know that as a Faith Heritage parent or guardian, you are aware of our effort to encourage parents to be involved with the education process and to communicate with teachers. To help you become aware of the instructions your child will receive before participating in the chemistry laboratory, please read the list of safety rules above. No student will be allowed to participate in laboratory activities until this agreement has been signed by both the student and guardian and returned to the instructor. Also note that no student is allowed to participate in lab exercises without safety goggles. Goggles are available in the lab room.

Your signature on this agreement indicates that you have read the student safety rules, are aware of the measures taken to help ensure the safety of your child in the chemistry laboratory, and will encourage your child to uphold their agreement to follow these rules and cooperate to help maintain a safe environment in the chemistry lab.

Parent

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

Please complete all signatures and return this page to your instructor. **The Lab Safety Is No Accident** pages should be placed in the student's notebook for frequent reference.

### Special Considerations:

Do you wear contact lenses?  YES  NOAre you color blind?  YES  NODo you have allergies?  YES  NO

If so, please list allergies: \_\_\_\_\_