

## Polk County Science Safety Rules

This school year your student will be involved in various science activities involving the use of laboratory apparatus, equipment and other science-related materials. The list of general rules below was created to protect your student as well as the other students in the science classroom during laboratory investigations and experiments. The general rules listed below cover all science courses in the middle school and high school program.

### General Rules:

1. Conduct yourself in a responsible manner at all times in the science classroom and science laboratory.
2. Follow all written and verbal instructions carefully. Perform only those lab activities assigned by your teacher. Unauthorized investigations and experiments are prohibited.
3. Never work alone in the laboratory. A certified instructor must be present at all times in the laboratory.
4. Never do anything in the laboratory that is not called for by your teacher. If you do not understand a direction or procedure, ask your instructor before proceeding.
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. Be prepared to work when you arrive in the lab. Familiarize yourself with the lab procedures before beginning the lab.
7. Horseplay, practical jokes, and pranks are dangerous and prohibited.
8. Work areas should be kept clean and tidy at all times. Bring only needed materials to the lab stations.
9. Know the locations and operating procedures of all safety equipment including the eyewash station, first aid kit, safety shower, fire extinguisher, and fire blanket. Know where the fire alarm and exits are located.
10. Be alert and proceed with caution at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
11. Labels and equipment instruction must be read carefully before use. Set up and use the prescribed apparatus as directed in the laboratory instructions or by your instructor.
12. Clean all work surfaces and apparatus at the end of the laboratory activity. Return all equipment clean and in working order to the proper storage area.
13. Wash your hands with soap and water after performing all laboratory activities.
14. Laboratory experiments and investigations must be personally monitored at all times. You will be assigned a lab station at which to work. Do not wander around the room, distract other students, or interfere with the activities of others.
15. Students are not permitted in the science storage rooms or preparation areas unless given specific permission by their instructor.
16. Know what to do if there is a fire drill during a laboratory period: containers must be closed and gas valves, fume hoods and electrical equipment must be turned off.
17. If you have a medical condition (e.g. allergies, pregnancy, diabetes, asthma, etc.) check with your physician prior to working in lab and notify the teacher.
18. Keep your hands away from your eyes, mouth, and nose while working with chemicals or preserved specimens.
19. Anytime chemicals, heat or glassware are used, students will wear chemical splash and impact resistant goggles. There will be no exceptions to this rule.
20. Laboratory activities involving dissections, projectiles and field studies require the use of impact resistant safety glasses. There will be no exceptions to this rule.
21. The instructor will ensure the right type of laboratory goggles or glasses are provided prior to conducting the laboratory investigation or experiment. Instructors may also require students to wear safety goggles or glasses for other science-related activities not mentioned in rules 20 and 21.
22. Dress properly for laboratory activities. Long hair, dangling jewelry, and loose or baggy clothing are a hazard. Long hair should be tied back and dangling jewelry and loose or baggy clothing must be secured. Shoes must completely cover the foot. No sandals or flip-flops are allowed in lab. Exceptions to this dress code are permissible for activities not involving heat, glass, sharp objects and/or chemicals.
23. Lab aprons are provided for your use and should be worn during laboratory experiments and investigations.
24. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.
25. If a chemical splashes 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.
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, wafting, 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 pipette. Use a rubber bulb or pipette pump.
30. When transferring chemicals 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 acids. 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 transporting acids and other chemicals from one part of the laboratory to another. Hold them securely and walk carefully.
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 an electrical plug from its socket, grasp the plug, not the 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 like 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.
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 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 off the burner or hot plate 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 be 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.
51. Any sharp objects, which may include, but are not limited to, knives, scalpels, scissors, pens, pencils, dissecting needles, and pins must be carried by the handles with points and tips pointing down and away from the body. Always cut away from your body and never toward the body of another person. Never try to catch falling sharp instruments. Grasp sharp instruments only by the handles.
52. Be sure to use all sharp objects for their intended purpose.
53. 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 and not the sink. Check the label of all waste containers twice before adding your chemical waste to the container.
54. All living organisms used in the laboratory must be treated humanely and with proper care.
55. Make sure to wear disposable gloves and eye protection while dissecting.
56. Never dissect any organism that is not preserved and provided by the instructor.
57. Preserved organisms must be treated with respect and disposed of properly.
58. Never remove any whole organism, or parts of organisms from the classroom.
59. Laboratory set ups that include bacteria and fungus should be in sealed containers once the initial setup is complete. These containers should NEVER be opened during the study.
60. After completion of a lab working with bacteria and fungus make sure to use proper procedures to dispose of the material. Your instructor is responsible for disposing of cultures and will instruct you as to placement of cultures after use.