

ALABAMA LAB SAFETY RULES FOR ALL STUDENTS

Dear Students and Parents,

Below you will find a list of rules for the laboratory according to the Alabama Lab Safety Law. These guidelines will be used at Cullman Middle School. It is very important that you understand them and the consequences if they are ignored. We will discuss them thoroughly in class before entering the lab. If your child chooses to ignore or break these safety procedures he/she is not only endangering his/her own safety, but the safety of the whole class. A student that ignores or purposely doesn't follow these Lab Safety Rules will not be allowed in the lab, the student will be required to use the resources of the Cullman Middle School library to write a research paper on a topic related to the topic of the lab. This research paper will be graded on the same scale as the actual lab work.

One of the first things a scientist learns is that working in the laboratory can be an exciting experience. But the laboratory can also be quite dangerous if proper safety rules are not followed at all times. To prepare yourself for a safe year in the laboratory, read over the following safety rules. Then read them a second time. Make sure you understand each rule. If you do not, ask your teacher to explain any rules you are unsure of.

Dress Code:

1. Many materials in the laboratory can cause eye injury. To protect yourself from possible injury, wear safety goggles whenever you are working with anything in the lab.
2. Wear a laboratory apron or coat whenever you are working with chemicals or heated substances.
3. Tie back long hair to keep it away from any chemicals, burners and candles, or other laboratory equipment.
4. Remove or tie back any article of clothing or jewelry that can hang down and touch chemicals and flames before working in the laboratory. This includes rings, bracelets, watches, necklaces, etc.
5. Wear suitable footwear (NO open-toed shoes or sandals).

General Safety Rules:

1. Read all directions for an experiment several times. Follow the directions exactly as they are written. If you are in doubt about any part of the experiment, ask your teacher for assistance.
2. NEVER perform activities that are not authorized by your teacher.
3. NEVER handle any equipment unless you have specific permission.
4. Take extreme care not to spill any material in the laboratory. If spills occur, ask your teacher immediately about the proper cleanup procedure. NEVER simply pour chemicals or other substances into the sink or trash container. Do NOT put solids of any kind in the sink.
5. NEVER eat or drink in the laboratory. Wash your hands before and after every experiment.

First Aid:

1. Report all accidents, no matter how minor, to your teacher immediately.
2. Learn what to do in case of specific accidents, such as getting acid in your eyes or on your skin. (Rinse acids on your body or in your eyes with lots of water).
3. Become aware of the location of the first-aid kit. Your teacher should administer any required first aid due to injury. Or your teacher may send you to the school nurse or call a physician.
4. Know where and how to report an accident or fire. Find out the location of the fire extinguisher, phone, and fire alarm. Report any fires to your teacher at once.

Heating and Fire Safety:

1. NEVER use a heat source such as a candle or burner without wearing safety goggles.
2. NEVER heat a chemical you are not instructed to heat. A chemical that is harmless when cool can be dangerous when heated.
3. Maintain a clean work area and keep all materials away from flames.
4. NEVER reach across a flame.
5. Make sure you know how to light a Bunsen burner. (Your teacher will demonstrate the proper procedure). If the flame leaps out of a burner toward you, turn the gas off immediately. DO NOT touch the burner as it may be hot. NEVER leave a lighted burner unattended.

6. Point a test tube or bottle that is being heated away from you and others. Chemicals can splash or boil out of a heated test tube.
7. NEVER heat a liquid in a closed container. Expanding gases produced may blow the container apart, injuring you or others.
8. NEVER pick up a container that has been heated without first holding the back of your hand near it if you can feel the heat on the back of your hand the container may be too hot to handle. Use a clamp or tongs when handling hot containers.
9. Avoid electric shock or injury by:
 - a. pulling the plug & NOT the wire when disconnecting power cords.
 - b. keeping work areas, hands, & feet dry when working with electrical apparatus.
 - c. NOT putting any items into an outlet other than proper electric plugs with electric cords attached.

Using Chemical Safety:

1. Read ALL labels TWICE BEFORE using any chemicals.
2. NEVER mix chemicals for the "fun of it." You might produce a dangerous, possibly explosive substance.
3. NEVER touch, taste, or smell a chemical that you do not know for a fact is harmless. Many chemicals are poisonous. If you are instructed to note the fumes in an experiment, gently waft (wave) your hand over the opening of a container and direct the fumes toward your nose. DO NOT inhale the fumes directly from the container.
4. NEVER look down into a test tube containing a reagent or hot substance.
5. Use only those chemicals needed in the activity. Keep all lids closed when a chemical is not being used. Notify your teacher whenever chemicals are spilled.
6. Dispose of all chemicals as instructed by your teacher. To avoid contamination, never return chemicals to their original containers.
7. Be extra careful when working with acids or bases. Pour such chemicals over the sink, not over your workbench.
8. When diluting an acid, pour the acid into water. NEVER pour water into the acid.
9. Rinse any acids off your skin or clothing with water. Immediately notify your teacher of an acid spill.

Using Glassware Safely:

1. NEVER force glass tubing into a rubber stopper. A turning motion and lubricant will be helpful when inserting glass tubing into rubber stoppers or rubber tubing. (Teacher will demonstrate the proper way to insert glass tubing.)
2. Do NOT place thermometers where they are likely to roll or be knocked off the table. Do NOT use excessive force when inserting thermometers into rubber stoppers. ALWAYS use an appropriate lubricant. Make sure you choose a thermometer with an appropriate temperature range or it may break. Report broken thermometers immediately - mercury vapor is extremely hazardous.
3. NEVER heat glassware that is not thoroughly dry. Use a wire screen to protect glass from any flame.
4. Do NOT clamp test tubes or flasks more tightly than necessary to hold them in place when heating. Expanding glass may break if clamped too tightly.
5. Hot glassware will not appear hot. NEVER pick up glassware without first checking to see if it is hot. Use beaker tongs to handle hot beakers, test tube tongs to handle hot test tubes, etc. NEVER set hot glassware on cool or cold surfaces or in any other way change its temperature suddenly, because uneven contraction may cause breakage.
6. After cutting glass tubing, fire-polish the ends immediately to remove sharp edges.
7. NEVER use broken or chipped glassware. If glassware breaks, notify your teacher and dispose of the glassware in the proper trash container. NEVER pick up broken glass with your hands. A whisk broom & dustpan should be used.
8. Glass wool & steel wool should be handled carefully. It is advisable to CUT the desired amount from the larger amount with scissors or shears rather than trying to pull it off. Steel wool is flammable & should NOT be exposed to open flames.
9. Be careful when working with pressurized or evacuated containers such as bell jars, vacuum tubes, gas cylinders, Thermos bottles, etc. Breaking these containers can cause explosions or implosions with flying debris.
10. NEVER eat or drink from laboratory glassware. Thoroughly clean glassware at the beginning & end of each lab period.

Animal Safety:

1. No experiments that will cause pain, discomfort, or harm to mammals, birds, reptiles, fish, and amphibians should be done in the classroom or at home.
2. Animals should be handled only if necessary. If an animal is excited or frightened, pregnant, feeding, or with its young, special handling is required.
3. Your teacher will instruct you as to how to handle each animal species that may be brought into the classroom.
4. Clean your hands thoroughly after handling animals or the animal's cage.

End-Of-Experiment Rules:

1. When an experiment is completed, clean up your work area and return all equipment to its proper place.
2. Wash your hands after every experiment and make sure the water is turned off.
3. Turn off all burners before leaving the laboratory. Check that the gas line leading to the burner is off.
4. Dispose of wastes properly. Do NOT put solids of any kind in the sink.

Procedures for Accidents:

1. Clothing fire - drop to floor & roll. NEVER run because running fans the flames & makes the situation more serious. Wrap the person in the fire blanket.
2. Thermal (heat) burns - Immerse the burned area in very cold water or ice water. Continue immersion until the pain is relieved & does NOT return when the burn is removed from water. Prompt application of cold eases the pain & tends to reduce the severity of the burn. In serious burns, cover the burned area with sterile gauze or clean sheet, until help arrives.
3. Chemical burns - A chemical burn is a severe injury involving destruction of tissue following contact with strong acids, alkalis, or oxidizing materials. Affected areas of skin should be promptly & freely flushed with water. Contaminated clothing should be promptly removed. Copious flushing with water is necessary to remove all injurious materials. Do NOT consider chemical antidotes as the reactions could produce further injury.
4. Eye injuries - Splashes of chemicals or exposure to vapors of some chemicals should be thoroughly flushed with an eye wash. Eyelids should be held apart so the entire surface of the eye may be flushed. Flushing should be continuous for at least 15 minutes. . . :
5. Poisoning by Inhalation - Gas vapors, fumes, mists, or dusts that are irritating may be inhaled. Remove student from exposure as quickly as possible & move to fresh air. If breathing has stopped, begin artificial respiration.
6. Swallowed Poisons - Dilute acids & alkalis by quickly administering large amounts of water. For other chemicals, follow the instructions on the label. NEVER give liquids to an unconscious person.
7. Bleeding - Hold a clean cloth pad directly over the wound & apply hand pressure. A tourniquet should NOT be applied.