

# LAB SAFETY

SOUTH HIGH SCHOOL SCIENCE

It is your responsibility to protect yourself and other students by conducting yourself in a safe manner while in the laboratory by following directions, handling materials carefully, and taking your work seriously. Read the following general safety guidelines below before attempting to do work in the laboratory. Make sure you understand all safety guidelines before entering the laboratory. If necessary, ask your teacher for clarification of laboratory rules and procedures.



## General Guidelines for Laboratory Safety

- \* **Only perform experiments specifically assigned by your teacher.** Do not attempt any laboratory procedure without your teacher's direction, and do not work alone in the lab.
- \* **Familiarize yourself with the investigation and all safety precautions before entering the lab.** Be aware of all potential hazards of the required materials and procedures. Before you begin, ask your teacher to explain any part that you do not understand.
- \* **Before beginning work, tie back long hair, roll up loose sleeves, and put on any required personal protective equipment as directed by your teacher.** Avoid or confine loose clothing that could knock things over, catch on fire, or absorb chemical solutions. Nylon and polyester fabrics burn and melt more readily than does cotton. Do not wear open-toed shoes, sandals, or canvas shoes in the lab.
- \* **Always wear a lab apron and safety goggles.** Laboratories contain chemicals that can damage your clothing, skin, and eyes. If your safety goggles fog up or are uncomfortable, ask for your teacher to help. Lengthening the strap, washing the goggles with soap and warm water, or using anti-fog spray can help.
- \* **Contact lenses are not allowed in the lab.** Even if you are wearing safety goggles, chemicals could get between contact lenses and your eye - this could cause irreparable damage. If your doctor requires you wear contact lenses instead of glasses, eye-cup safety goggles can be worn.
- \* **In case of eye contact do the following:** Go to an eyewash immediately and flush your eyes with running water for at least 15 minutes. Hold your eye open with your thumb and forefinger while rolling your eyeball around. Tell your teacher immediately.
- \* **Know the location of all safety and emergency equipment used in the laboratory.** Ask your teacher where the nearest eyewash station, safety blankets, safety shower, fire extinguisher, first-aid kit, and chemical spill kit are located.
- \* **Immediately report any accident, incident, or hazard - no matter how trivial - to your teacher.** Any incident involving bleeding, burns, fainting, chemical exposure, or ingestion should be reported to the teacher, nurse or physician immediately.
- \* **In case of a fire, alert your teacher and leave the lab.** Standard fire-safety procedures should be followed.



- \* **Do not fool around in the classroom.** Take your lab work seriously and behave appropriately in the lab at all times.
- \* **Do not apply cosmetics in the lab.** Some hair-care products and nail polish are highly flammable.
- \* **Keep your work area neat and uncluttered.** Have only books or other materials that are needed to conduct the experiment in the lab.
- \* **Clean your work area at the conclusion of each lab period as directed by your teacher.** Broken glass, chemicals, and other laboratory products should be disposed of in separate special containers. Dispose of waste materials as directed by your teacher.
- \* **Wash your hands with soap and water after each lab period.** Wash your hands at the end of each lab to avoid contamination.

## GLASSWARE SAFETY

- \* **Inspect glassware before use; do not use chipped or cracked glassware.**
- \* **Do not attempt to insert glass tubing into a rubber stopper without specific instruction from your teacher.**
- \* **Immediately notify your teacher if a piece of glass or glassware breaks. Do not attempt to clean it yourself.**

## HYGIENIC CARE

- \* **Keep your mouth and hands away from your mouth and face while working in the lab.**
- \* **Wash your hands thoroughly before leaving the lab.**
- \* **Remove contaminated clothing immediately.** If you spill caustic substances on your skin or clothing, use the safety shower or a faucet to rinse. Remove affected clothing while in the shower; and call to your teacher.
- \* **Laundry contaminated clothing separately.**
- \* **Use the proper technique demonstrated by your teacher when handling bacteria or other microorganisms.** Do not open Petri dishes to observe bacterial colonies.

- \* **Do not have or consume food or drink in the lab.** Do not store or eat food in the laboratory. **Do not**

## HEATING SAFETY

- \* **Be aware of any source of flames, sparks, or heat (open flames, electric heating coils, hot plates etc.) before working with flammable liquids or gases.** Do not leave these unattended!
- \* **When heating chemicals or solution in a test tube, do not point the test tube toward anyone!**
- \* **Use tongs or appropriate insulated holders when handling heated objects.** Heated objects often do not appear to be hot. Do not pick up an object with your hand if it could be warm.
- \* **Keep flammable substances away from heat, flames, and other ignition sources.**

## ELECTRICAL SAFETY

- \* **Do not use equipment with frayed electrical cords or loose plugs.**
- \* **Do not use electrical equipment near water or with wet hands or clothing.**
- \* **Hold the rubber cord when you plug in or unplug equipment.** Do not touch the metal prongs of the plug. Do not unplug equipment by pulling on the cord.

# SYMBOLS



Meaning: Safety shower



Meaning: eye safety



Meaning: toxic



Meaning: flammable



Meaning: radioactive

## HAND SAFETY

- \* Use extreme care when handling all sharp and pointed instruments, such as scalpels, sharp probes, scissors and knives.
- \* Do not cut objects while holding them in your hand. Dissect specimens in a dissecting tray.
- \* During dissections cut away from your body. Start superficially before cutting deep tissue.
- \* Wear protective gloves when using chemicals, open flames, or during dissections.

## CHEMICAL SAFETY

- \* Do not taste, touch, or smell any chemicals or bring them close to your eyes, unless specifically instructed by your teacher. If you are directed by your teacher to note the odor of a substance, do so by wafting the fumes toward you with your hand.
- \* Do not mix chemicals unless specifically instructed by your teacher. Two harmless chemicals could be poisonous or explosive if combined.
- \* Report any spill immediately to your teacher.
- \* When heating a test tube, always point it away from yourself and others.
- \* When working with acids or bases, pour chemicals over the sink, not over your work table.
- \* When diluting an acid, always pour acid into water. Never pour water into the acid.
- \* Be careful not to interchange stoppers, spatulas etc. to avoid contamination.