



1. When you are at a lab station with chemicals, heat or glassware, you must wear your lab glasses. Long pants and closed toed shoes are required. Lab aprons are required if you forget and wear shorts.
2. Dispensing solutions from a stock bottle – it is essential that you *label any beaker that you use to obtain a stock solution* using a sharpie on the glass. Unlabeled beakers with unknown solutions are an obvious hazard.
3. For most labs, you are responsible for getting out the equipment. Unless instructed otherwise, if you get it out, you clean it up and you put it away. If you label it, you clean the label off.
4. Know the location of glassware & safety equipment.

⚙ Beakers	⚙ Volumetric flasks (plastic)	⚙ Ring stand
⚙ Graduated cylinders	⚙ Thermometers	⚙ Buret stand
⚙ Erlenmeyer flasks	⚙ Clamps	⚙ Hot plate
⚙ Volumetric pipets	⚙ Fire extinguisher	⚙ Distilled Water
⚙ Pipet bulbs	⚙ Eye wash	⚙ Stirring Rods
⚙ Burets	⚙ Funnel supports	⚙ Distilled water

On the first day of lab, look in your lab drawer and around the room and find these items. In the labware portion of your summer assignment, add the location of each item for future reference.

5. Massing of samples
 - ⚙ For accuracy, *it is always best to weigh directly into the container* that is being used. Each time a chemical is transferred from one container to another, some is lost and the accuracy of the measurement is decreased. Only use a weighing boat when the neck of the container is too small, a volumetric flask for example, to dispense the material without spilling all over the balance.
 - ⚙ When massing a test tube or other objects that roll, first place the tube in a support beaker.
6. Acid safety - 3.0 M and above
 - ⚙ When spilled, cover the area with the baking soda found at each station. The neutralization reaction that occurs is endothermic making for a safe clean up process. When the reaction ceases, add a bit more baking soda to make sure all of the acid is neutralized. If there are no more bubbles, wipe the gunk into a trashcan and wash down the area with water.
 - ⚙ When diluting concentrated acids, always add acid to water. A large amount of heat is released when a concentrated acid is diluted. Providing a large heat sink to absorb that heat is the safe technique. Know that when preparing 6.0 M sulfuric acid from the 18.0 M solution that the manufacturer provides, if you're not careful, the resulting solution will boil!
7. Stirring rods are a great tool for stirring your reaction mixture, but please understand that they can be a significant source of error. If you are performing a *quantitative* experiment in which accuracy matters know that you are losing material every time the stirring rod is removed without proper rinsing.
8. Distilled water
 - ⚙ The squirt bottles at your stations are strictly for distilled water.
 - ⚙ There is a gallon bottle at each station for distilled water. If it is empty, there is a 5 gallon Sparkletts dispenser next to the door to the stock room that is there for your use. If you notice the bottle is empty, please let me know.
9. *The only paper allowed at your lab station is your lab book.*
10. Each semester, you will start with 20 lab safety points. Each time a person/group is not adhering to the principles above and the items in the safety contract, a point will be deducted.