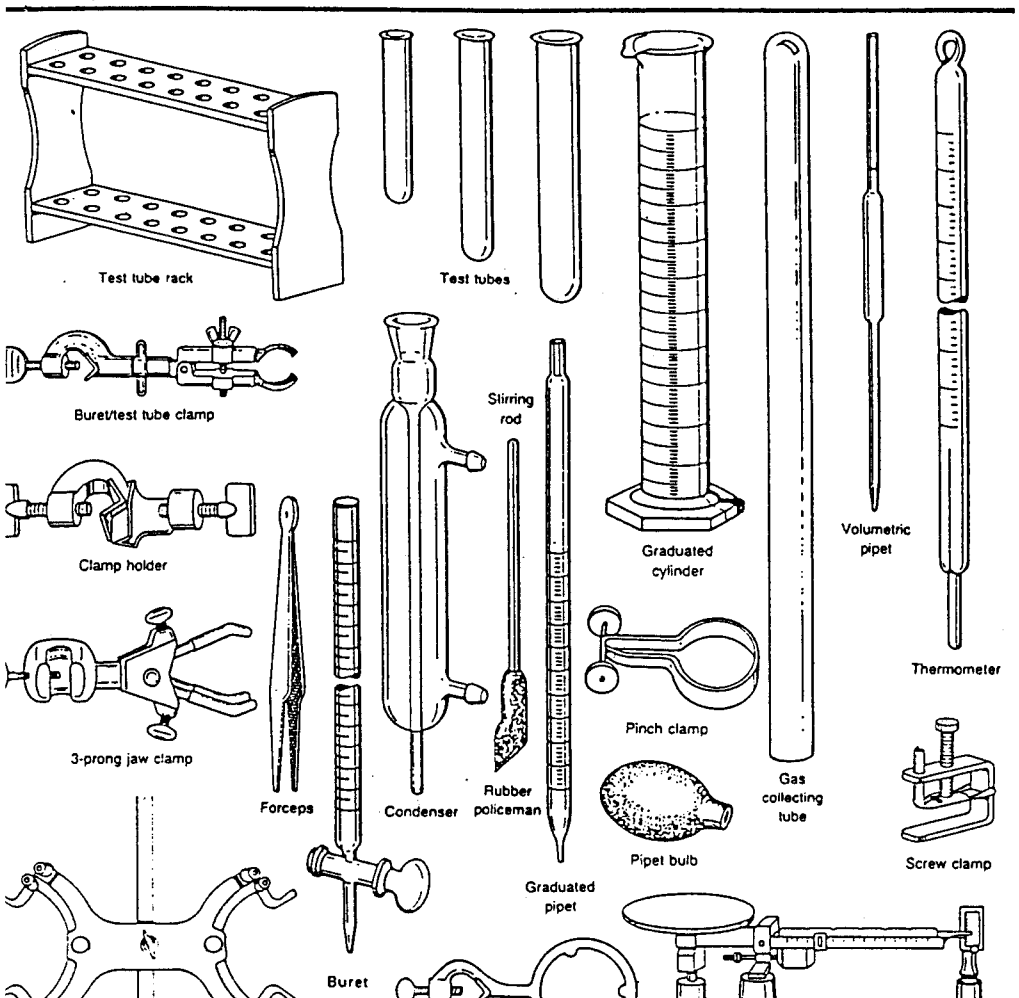
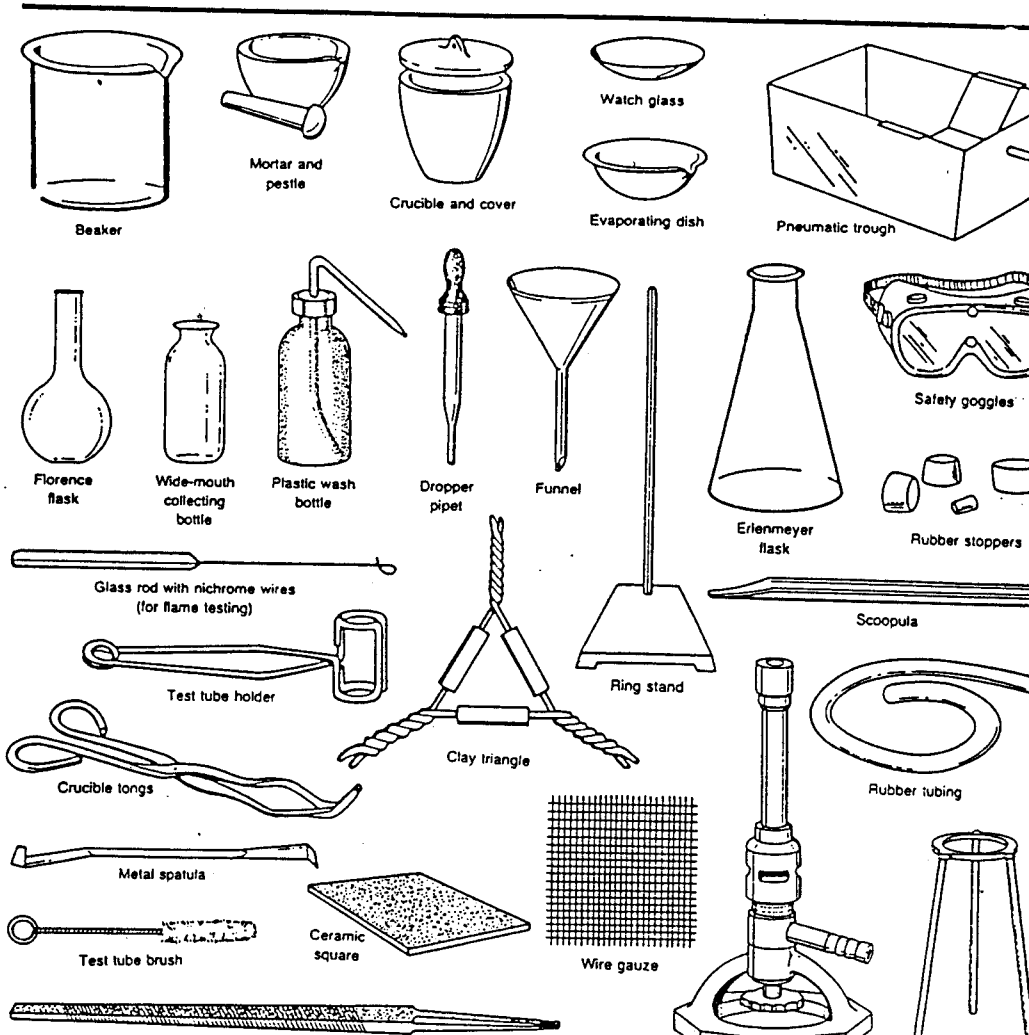
SAFETY RULES AND PROCEDURES

1. If you see something in the classroom or laboratory that is dangerous, tell the teacher at once.
2. rags or paper towels with flammable liquids or solids in or on them must be put in a metal or crockery container with a lid.
3. Any spill on the floor can cause an accident. Always clean it up at once.
4. Alcohol, either, and other volatile materials that can burn easily should never be used near an open flame.
5. When you work with laboratory chemicals and Bunsen burners, long hair must be kept out of the way by wearing a band, hat or hair net.
6. When you work with laboratory chemicals, equipment, or burners, all loose clothes and loose jewelry must be removed.
7. If you are hurt (cut, burned, and so on) tell the teacher at once.
8. Whenever you are in the classroom or laboratory, you should wear closed shoes.
9. If you think there is something wrong with a piece of equipment you are using, stop, turn it off, and tell the teacher.
10. If you break a piece of glassware or other equipment, tell the teacher at once.
11. All floors aisles, and passageways should be kept clear of laboratory equipment and chemicals.
12. If you see a fire in an apparatus assembly or a burning liquid such as alcohol it is best to put it out with the ABC fire extinguisher.
13. To put out a fire in a persons hair or clothing use the fire blanket.
14. The correct way to move about the classroom or laboratory is to walk.
15. Helping to clean up the classroom or laboratory is the job of each student.
16. when you use laboratory equipment or chemicals, you should give the procedure all of your attention, interest and effort.
17. Chemicals, small parts, glassware, and stirring rods are not to be put in your mouth.
18. to prevent accidents during laboratory activities with chemicals and equipment you should follow your teachers directions
19. Playing (as opposed to working) in the laboratory or bothering another person is always against the rules.
20. To be able to put out a fire quickly and safely you should know how to use the extinguishers, where the extinguishers are located, and which extinguisher is used for each class of fire.
21. If flammable liquids such as alcohol are spilled, you should first tell the teacher.
22. Before you touch an electrical switch plug or out let your hands must be dry.
23. Eyeglasses do not provide as much protection as a face shield, safety glasses, or splash proof goggles.
24. Laboratory aprons, when provided are for the protection of you and your clothes.
25. Cabinet drawers and doors that are left open cause a hazard and should be closed by you.
26. In case of a fire in the laboratory, notify the teacher at once and then be prepared to evacuate the building or laboratory.
27. All chemicals should be stored in properly labeled containers.
28. When preparing dilute solutions of an acid carefully pour acid to water.
29. If acid gets on your skin or clothes wash at once with water.
30. Spilled bases can be neutralized and made safe with a dilute acetic acid solution(vinegar).
31. Spilled acids can be made safe with sodium bicarbonate solution.
32. You must wear approved eye protection while working in the laboratory whenever the lab instructions tell you to.
33. Disturbing other students while they are working in the laboratory is dangerous.
34. You should prepare for each laboratory activity by reading all instructions before you start to work.
35. When measuring small amounts of corrosive or caustic liquids with a pipette draw the liquid to the tube by using a rubber suction bulb.
36. When heating a substance in a test tube be sure the open end of the tube points towards no other person.
37. After heating a glass tube to bend it the soonest you can safely handle the tubing is after you are sure that is cool.
38. To insert glass tubing into a rubber stopper, you should (after fire polishing and cooling) lubricate with water or glycerin use a towel for protection and twist carefully.
39. To remove an electrical plug from its socket you should pull the plug itself.



Laboratory Equipment



ortar and pestle: porcelain, may be used to grind crystals and lumpy emicals to a powder.
pet bulb: rubber, used in filling a pipet with a solution, a pipet must ver be filled by mouth.
astic wash bottle: flexible plastic, squeeze sides to dispense water.
atform balance: also known as a triple beam balance.
neumatic trough: galvanized container with shelf, used in experiments where a gas is collected.
ingstand: metal rod fixed upright in a heavy metal base; has many es as a support.
ubber stoppers: several sizes.
ubber tubing: used to connect apparatus so as to transfer liquids or ses.
afety goggles: plastic; must be worn at all times while working in e laboratory.
crew clamp, pinch clamp: metal, used to block off rubber tubbing.
patula, scoopula: metal or porcelain; used to transfer solid chemicals; e scoopula has a larger capacity.

Stirring rod and rubber policeman: glass with rubber sleeve; used to stir, assist in pouring liquids, and for removing precipitates from a container.
Test tube brush: bristles with wire handle, used to scrub small diameter glassware.
Test tube holder: spring metal, used to hold test tubes or glass tubing.
Test tube rack: wood or plastic, holds test tubes in a vertical position.
Test tubes: glass, common sizes small (13 mm x 100 mm), medium (20 mm x 150 mm), large (25 mm x 200 mm), may be heated.
Thermometer: mercury in glass, common range −10°C to 110°C.
Triangular file: metal, used to scratch glass tubing prior to breaking to desired length.
Tripod: iron, used to support containers of chemicals above the flame of a burner.
Volumetric pipet: glass, common sizes are 10-mL, 25-mL, used to measure solution volumes accurately, must not be heated.
Watch glass: glass, used to cover an evaporating dish or beaker.
Wide-mouth bottle: glass, used with pneumatic trough.
Wire gauze: used to spread the heat of a burner flame.

Beaker: glass or plastic; common sizes are 50-mL, 100-mL, 250-mL, 400-mL; glass beakers may be heated.
Buret: glass; common sizes are 25-mL, and 50-mL; used to measure volumes of solutions in titrations.
Ceramic square: used under hot apparatus or glassware.
Clamps: the following types of clamps may be fastened to support apparatus: buret/test-tube clamp, clamp holder, double buret clamp, ring clamp, 3-pronged jaw clamp.
Clay triangle: wire frame with porcelain supports, used to support a crucible.
Condenser: glass; used in distillation procedures.
Crucible and cover: porcelain, used to heat small amounts of solid substances at high temperatures.
Crucible tongs: iron or nickel, used to pick up and hold small items.
Dropper pipet: glass tip with rubber bulb, used to transfer small volumes of liquid.
Erlenmeyer flask: glass, common sizes are 100-mL, 250-mL; may be heated, used in titrations.

Evaporating dish: porcelain, used to contain small volumes of liqui being evaporated.
Florence flask: glass, common sizes are 125-mL, 250-mL, 500-mL may be heated, used in making and for storing solutions.
Forceps: metal, used to hold or pick up small objects.
Funnel: glass or plastic, common size holds 12.5-cm diameter filte paper.
Gas burner: connected metal; to a gas supply with rubber tubing; use to heat chemicals (dry or in solution) in beakers, test tubes, and cru cibles.
Gas collecting tube: glass, marked in mL intervals; used to measur gas volumes.
Glass rod with nichrome wire: used in flame tests.
Graduated cylinder: glass or plastic, common sizes are 10-mL, 50-mL, 100-mL, used to measure approximate volumes; must not be heated.
Graduated pipet: glass, common sizes are 10-mL, 25-mL; used to measure solution volumes