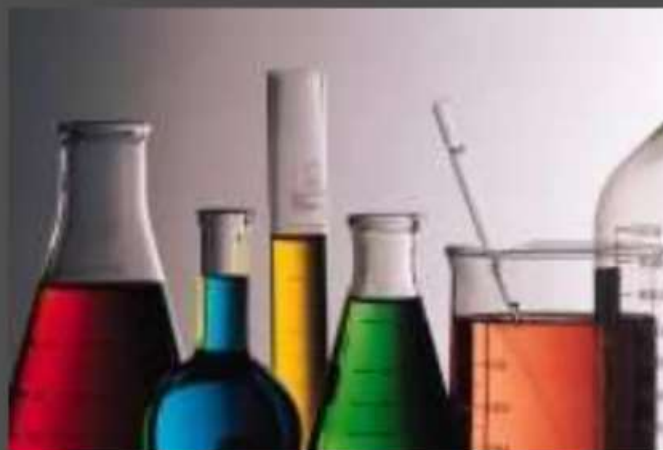


BHS Chemistry Lab Equipment



Adapted from presentations by Stephen L. Cotton, Charles Page High School
and Mrs. Parris, Galax High School

Beaker Tongs



Beaker tongs are used to move beakers containing hot liquids.

Note the **rubber coating** to improve grip on the glass beaker - **do NOT hold this in a burner flame.**

Bunsen Burner

Bunsen burners are used for heating nonvolatile liquids and solids.



Make sure the hose is snug on the gas outlet and that there are no cracks in the hose.

Analytical Balance



Make sure balance is **zeroed** (reads zero) before beginning. You can do this with the “zero” function.

Never place chemicals directly onto the balance pan. Use a weigh paper or dish.



Crucible and cover



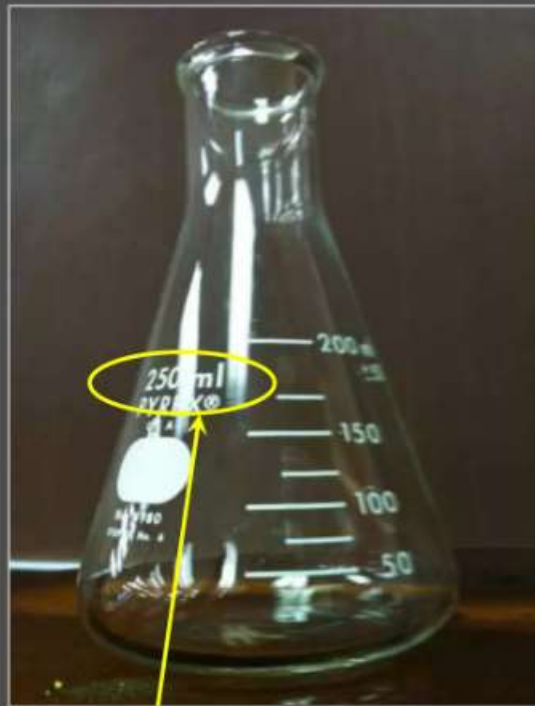
Crucibles are used for heating certain solids, particularly metals, to very high temperatures. The cover can be used to contain any smoke particles.

Crucible Tongs

For handling hot crucibles; also used to pick up other hot objects - **NOT** to be used for picking up beakers!



Erlenmeyer Flask



Note the size

Erlenmeyer flasks hold solids or liquids that may release gases during a reaction or that are likely to splatter if stirred or heated.

Evaporating Dish



The evaporating dish is used for heating stable solid compounds and elements, as well as for evaporating nonvolatile solutions.

Florence Flask

Rarely used in first year chemistry, it is used for the mixing of chemicals. Narrow neck prevents splash exposure.



Forceps



Forceps are used to hold or pick up small objects.

Funnel

A funnel is used to aid in the transfer of liquids from one vessel to another, and will hold filter paper while filtering. It may be glass or plastic.



Graduated Cylinder

A graduated cylinder is used to more accurately measure volumes of liquids (probably your best everyday measuring tool) there are three sizes in your desk: 10 mL, 50 mL and 100 mL.



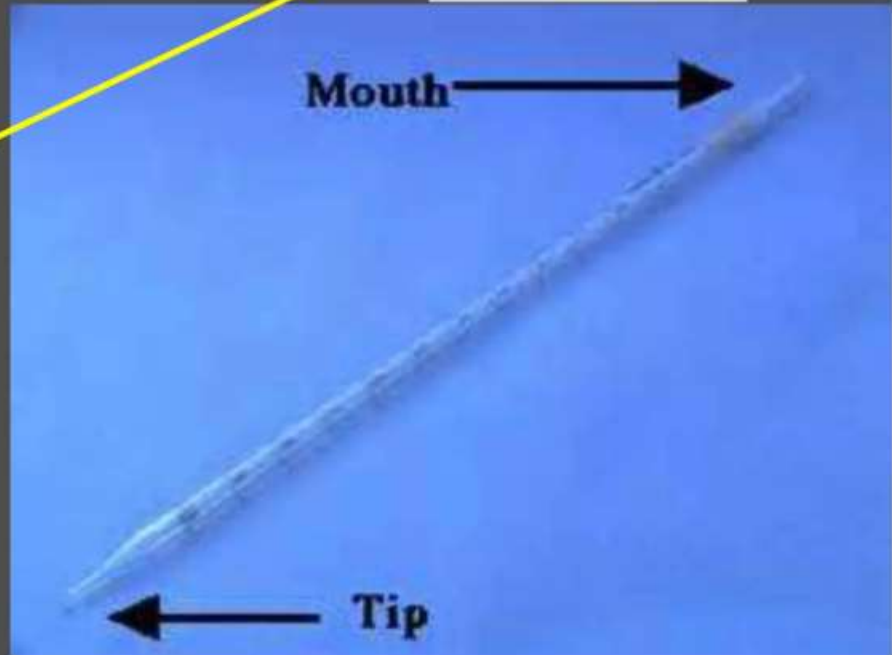
Buret

A buret is used to very accurately measure volumes of liquids and dispense small measurable amounts of liquids.



Pipet

A pipet is used to very accurately dispense volumes of liquids. We use a pipet bulb or a delivery tube to dispense the liquid. Never use your mouth to draw liquid into the pipet.



Disposable Pipet

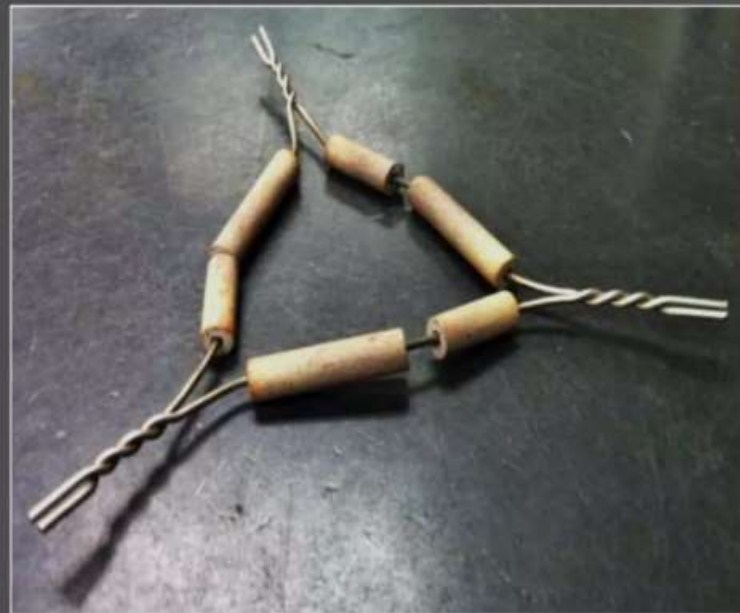


Disposable pipets are used to transfer a small volume of liquid, usually one drop at a time.

Pipe Stem (Clay) Triangle

The pipe stem triangle is used as a support for **crucibles** when being heated over a lab burner.

It can also be used to **support a funnel** when filtering.



Reaction Plates

Reaction plates (or *multi-well plates*) are used when we want to perform many small scale reactions at one time.

It is like having lots of test tubes available at one time.



Ringstands and their Components

Ringstands are a safe and convenient way to perform reactions that require heating using a lab burner.

Never put them in the cabinet if they are too hot to hold as it can cause a fire.



Ringstands and their Components

Metal Ring

Metal rings connect to a ringstand, and provide a stable, elevated platform for a beaker to be heated.

Will also hold a pipe stem triangle and funnel during filtering



Ringstands and their Components

Test tube/Utility Clamps

Test tube clamps are used to secure test tubes, distillation columns, and burets to the ringstand.



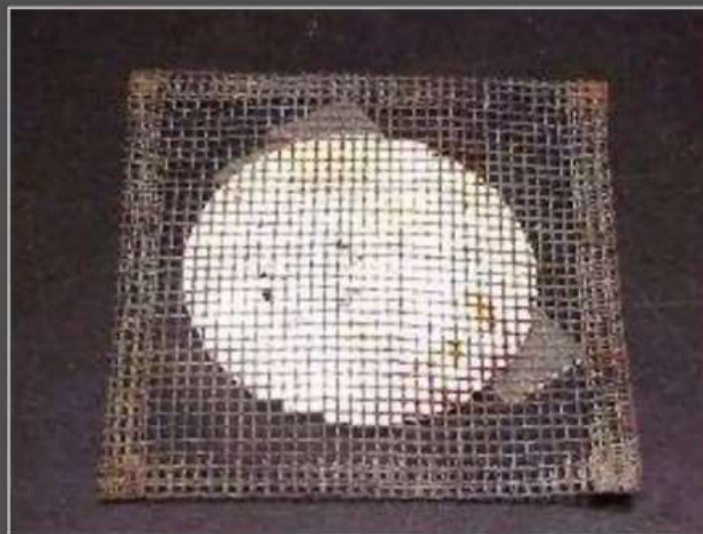
Image source xump.com

Ringstands and their Components

Wire Gauze

Wire gauze sits on the iron ring to provide a place to stand a beaker.

On older wire gauze, the white material was asbestos – currently it is a ceramic.



Scoopula/Spatula

Spatulas are used to transfer solid chemicals.
Never insert a spatula directly into a reagent bottle.



Chemicals should **never** be transferred with your bare hands.

Stirring Rod



Stir with this end.

The stirring rod is used to:

- a) manually stir solutions;
- b) assist in pouring liquids; and
- c) to transfer a single drop of a solution.

Rubber policeman tip is used to remove precipitates.

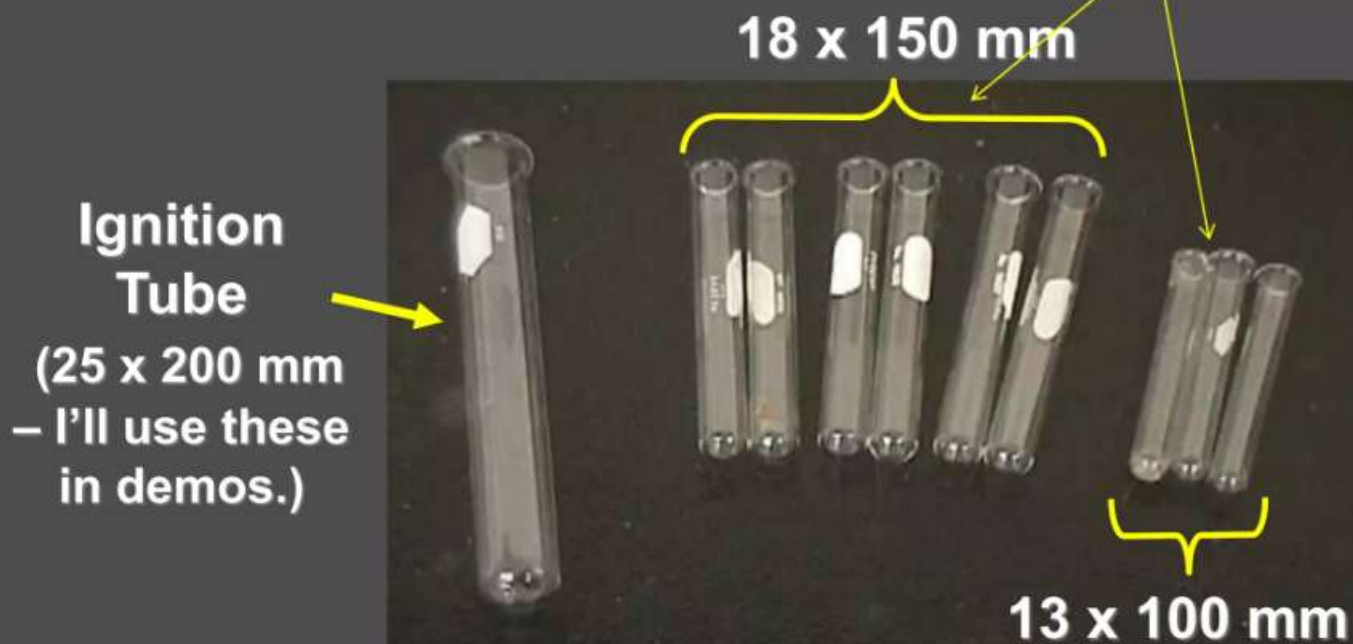
Flint Lighter / Striker

These strikers are used to light lab burners.

The flints on strikers are expensive. **Do not** operate the striker repeatedly just to see the sparks!



Test Tubes - we commonly use 2 sizes:



Test tubes are used to mix chemicals, and also to heat chemicals. **Only heat test tubes that are Pyrex or Kimax.**

Rubber Stoppers

Rubber stoppers are used to seal a reaction vessel, which could be a flask or a test tube.



Stoppers can also be used to force gaseous products of a reaction to flow into a specific location.

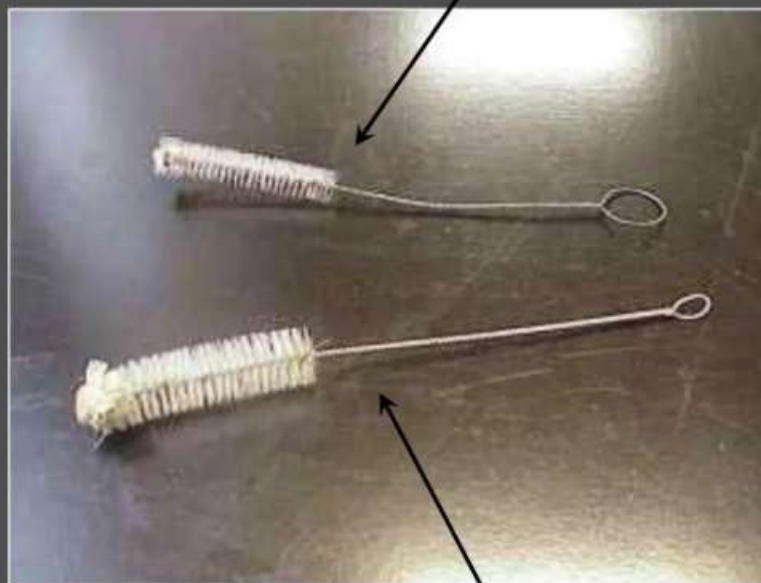


Test Tube Brushes

Test tube brushes are used to clean test tubes and graduated cylinders.

Forcing a large brush into a small test tube will often break the tube. **Don't worry about drying the inside of a test tube.**

Small test tube brush



Large test tube brush

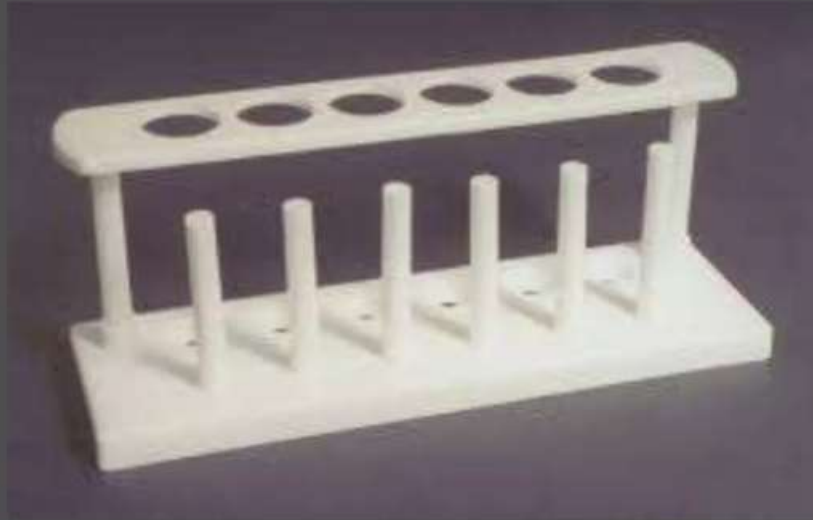
Test Tube Holder

A test tube holder is useful for holding a test tube which is too hot to handle.

Knowing where to **hold** this piece of equipment (at the end) is important!



Test Tube Racks



Test tube racks are for holding and organizing test tubes on the laboratory counter.

Wash Bottle



Wash bottles are used to rinse solids from other equipment when trying to conserve (keep all of) the solid—for instance, from the inside of a test tube.

Mortar & Pestle

A mortar & Pestle is used to grind solids into fine powders to speed the mixing or reaction process.

The mortar & pestle is a thicker porcelain that is more heavy duty than the evaporating dish.



Watch Glass

A watch glass is used to hold a small amount of solid, such as the product of a reaction.

Can also be used as a **cover** for an evaporating dish or beaker.

