

Lab Equipment

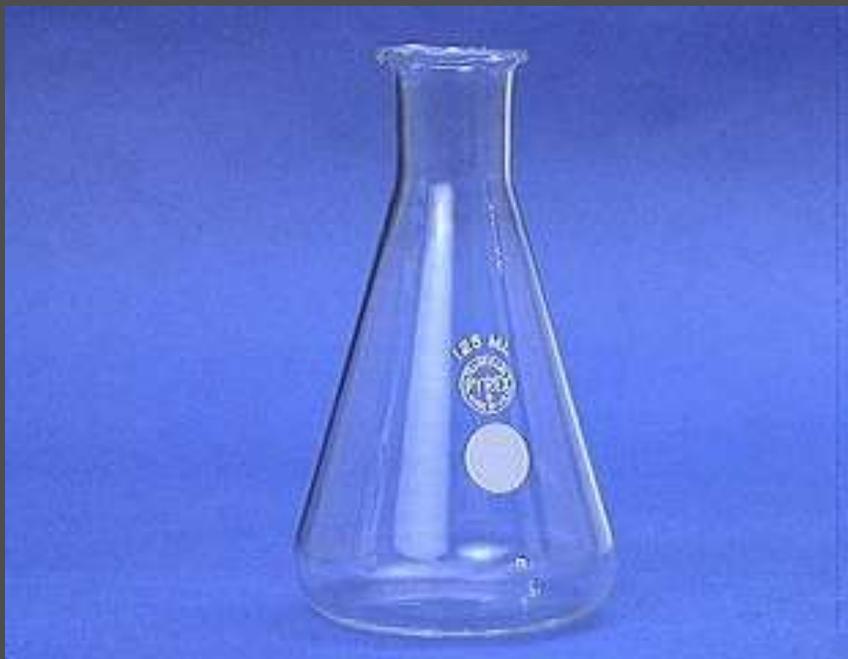


Beaker

Beakers hold solids or liquids that will not release gases when reacted or are unlikely to splatter if stirred or heated. They come in a variety of sizes and the measurements on them are a guideline only. They are very inaccurate!



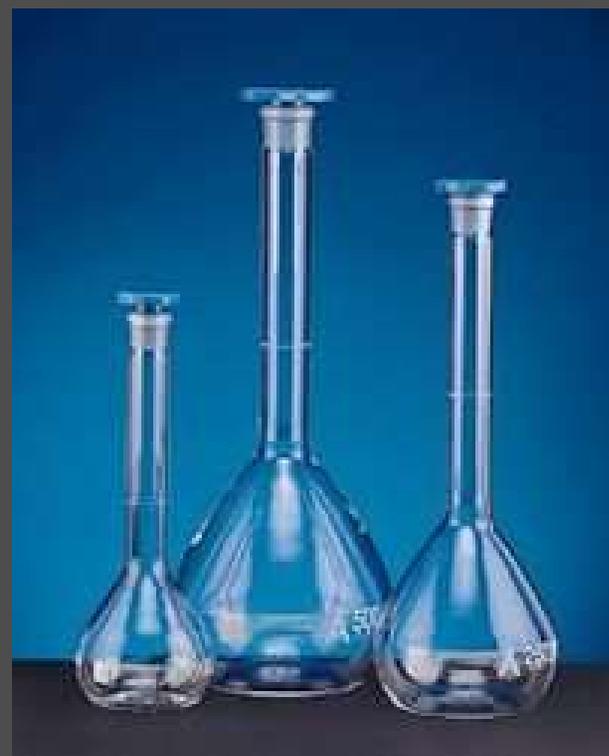
Erlenmeyer Flask



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

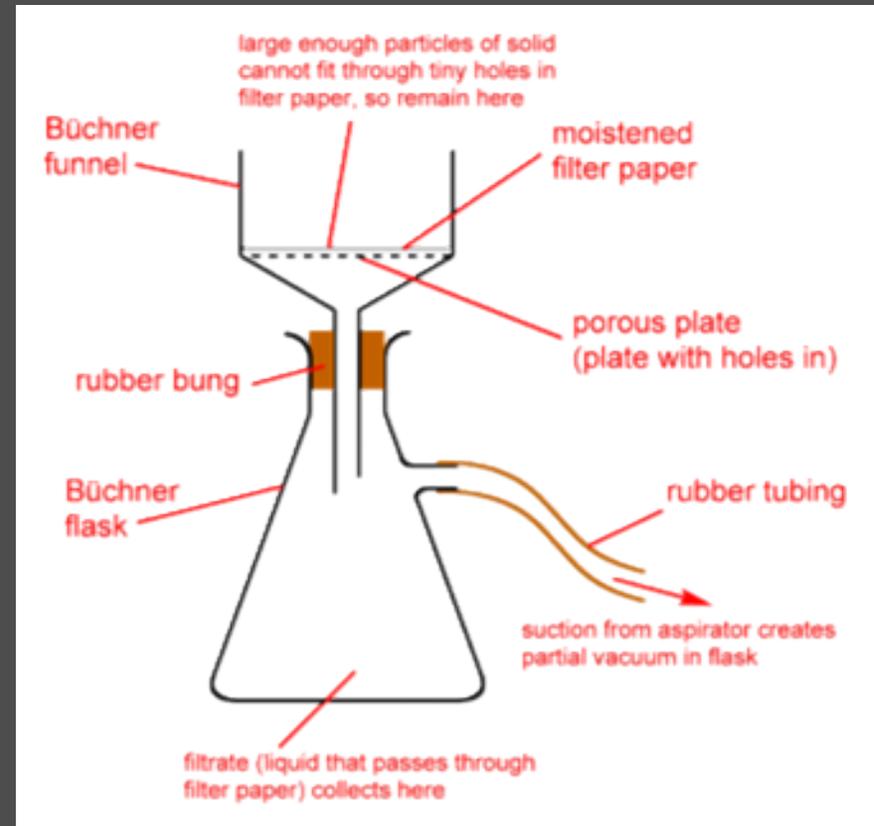
Volumetric Flask

Volumetric Flasks are very accurate containers that are used to make solutions of a very precise concentration. They come in a wide variety of sizes. Solutions should never be stored in a volumetric flask, just prepared in them.



Büchner Funnel

A Büchner funnel is a piece of laboratory equipment which is used to filter or separate a solid from a liquid. It allows the solid to be dried faster than simply using a filter paper over a beaker as the vacuum aids in removing water.



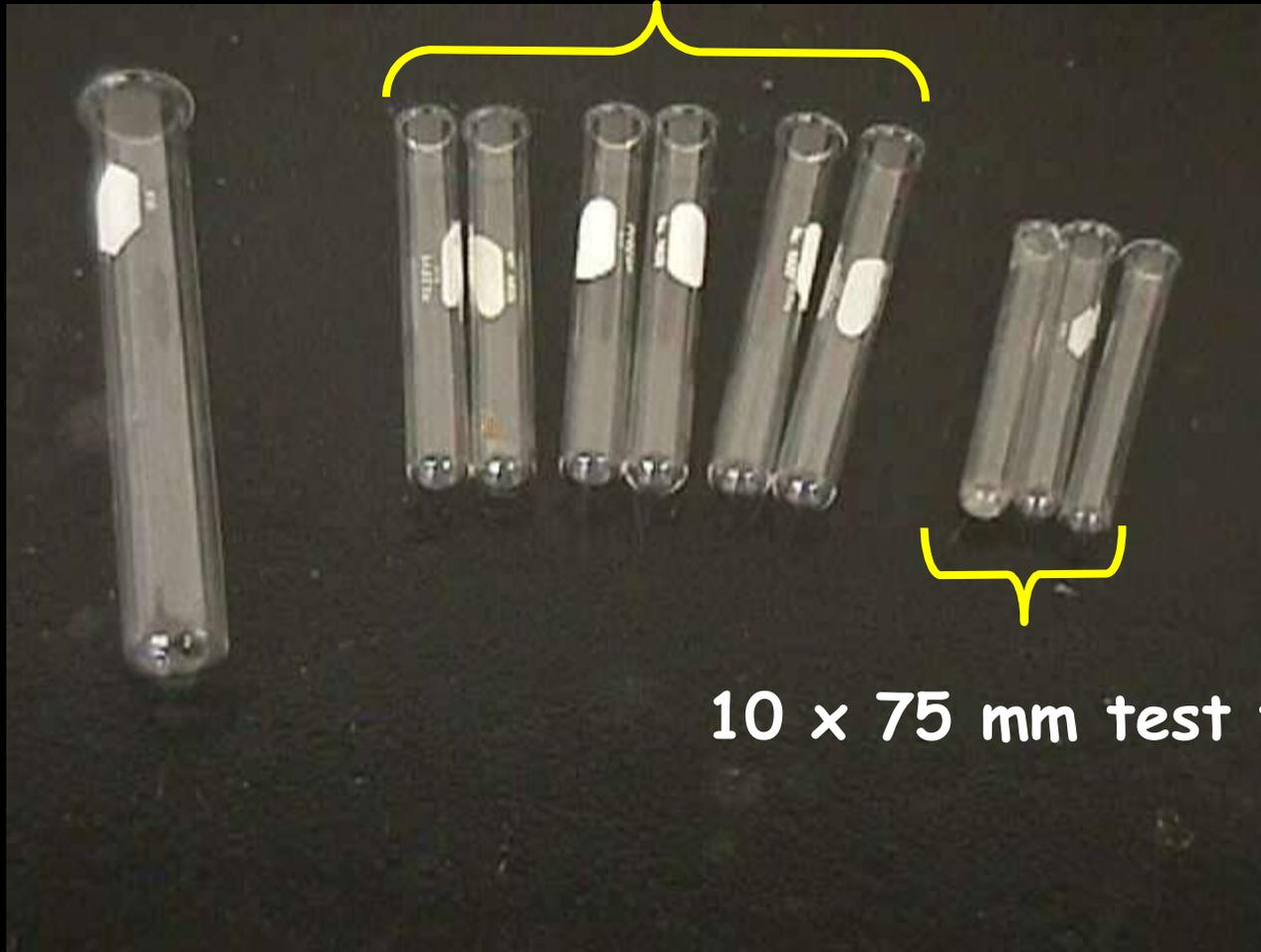
Graduated Cylinder

A graduated cylinder is used to measure volumes of liquids. They are accurate to 1 decimal place. What's the purpose of the yellow band at the top?



Test Tubes

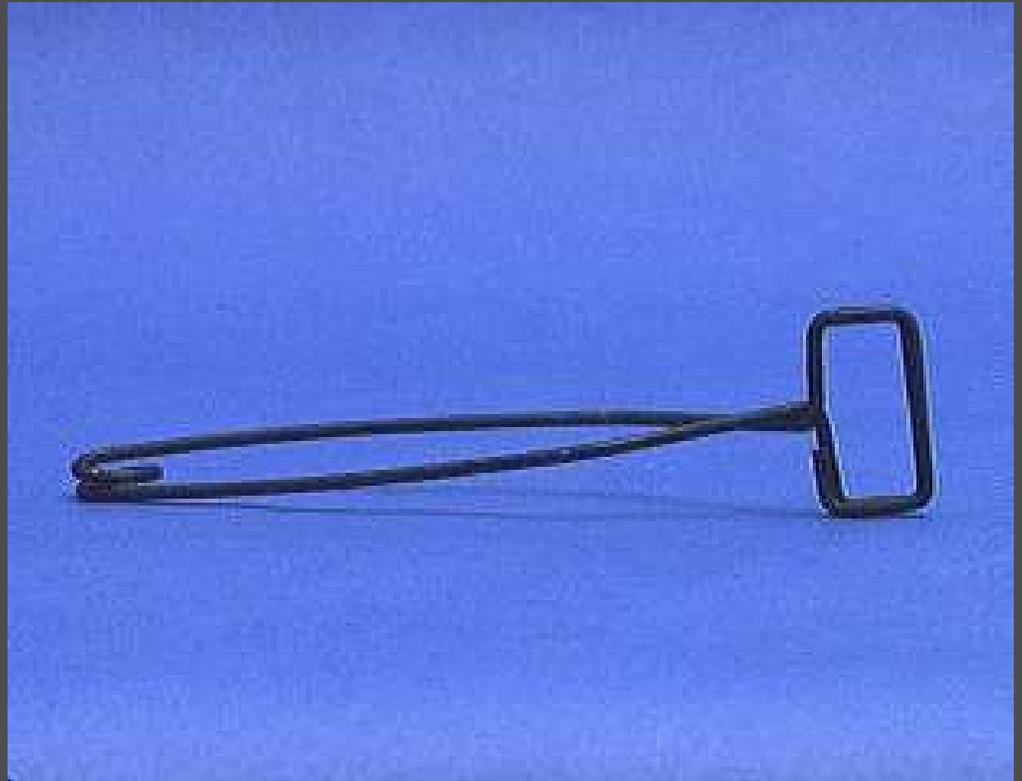
13 x 100 mm test tubes



10 x 75 mm test tubes

Test Tube Holder

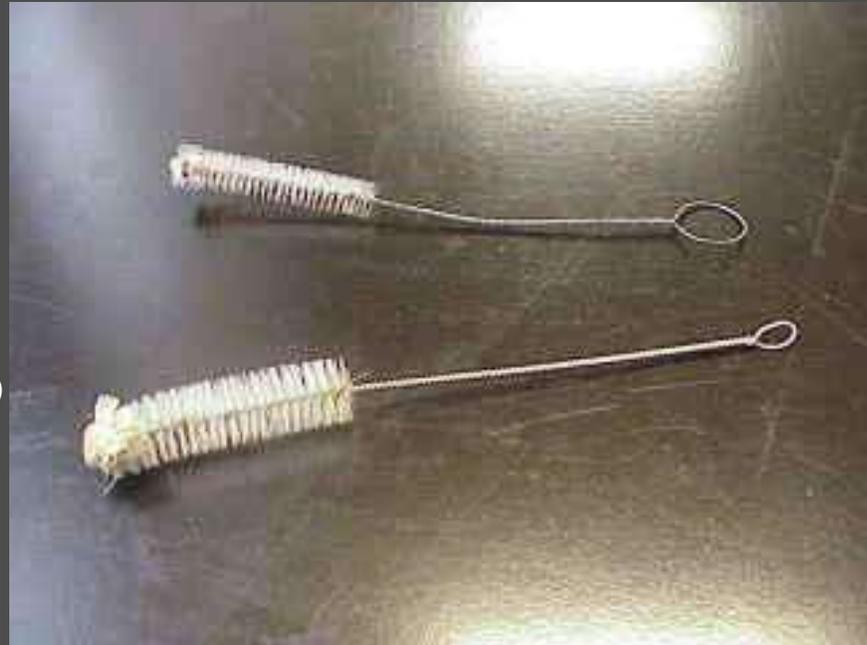
A test tube holder is useful for holding a test tube which is too hot to handle.



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.



Test Tube Racks



Test tube racks are for holding and organizing test tubes on the laboratory counter. Plastic racks may melt in contact with very hot test tubes.

Rubber Stoppers



Rubber stoppers are used to close containers to avoid spillage or contamination.

Containers should never be heated when there is a stopper in place.

Spot Plates

Spot plates are used when we want to perform many small scale reactions at one time.

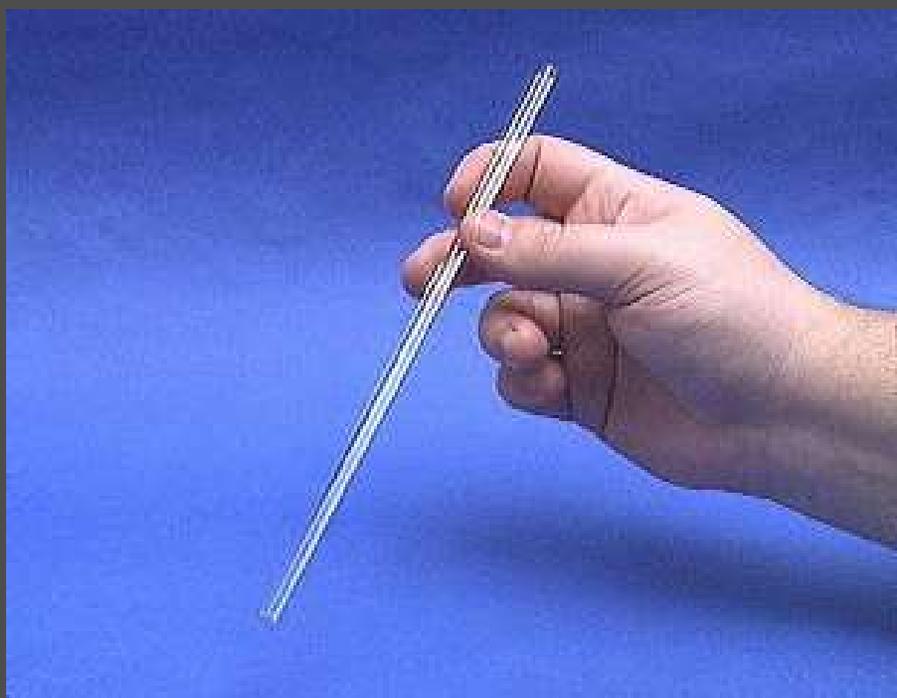


Watch Glass

A watch glass is used to hold a small amount of solid, such as the product of a reaction. Sometimes they are used to cover beakers during a reaction if the materials inside are apt to splash.

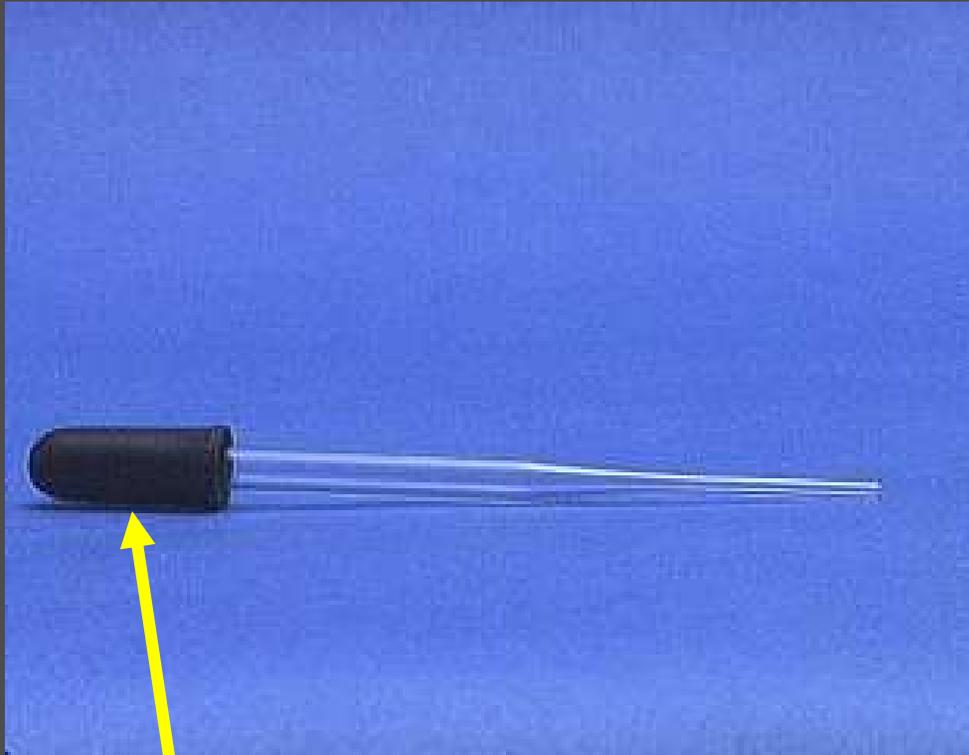


Glass Stirring Rod



A stirring rod is used to manually stir solutions. It can also be used to transfer a single drop of a solution.

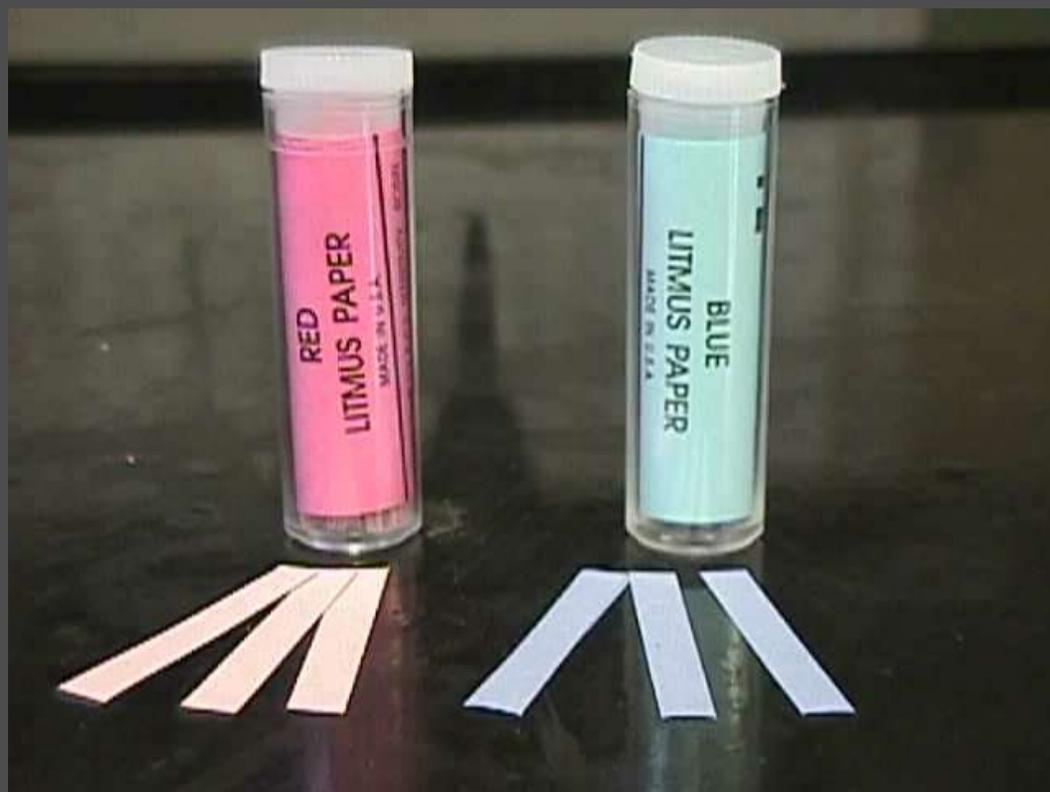
Medicine Dropper



A medicine dropper is used to transfer a small volume of liquid (less than one mL).

On top of each medicine dropper is a "rubber bulb"

Litmus Paper



Red litmus paper is used to identify bases.

Blue litmus paper is used to identify acids.

Why do you need two types of litmus papers?

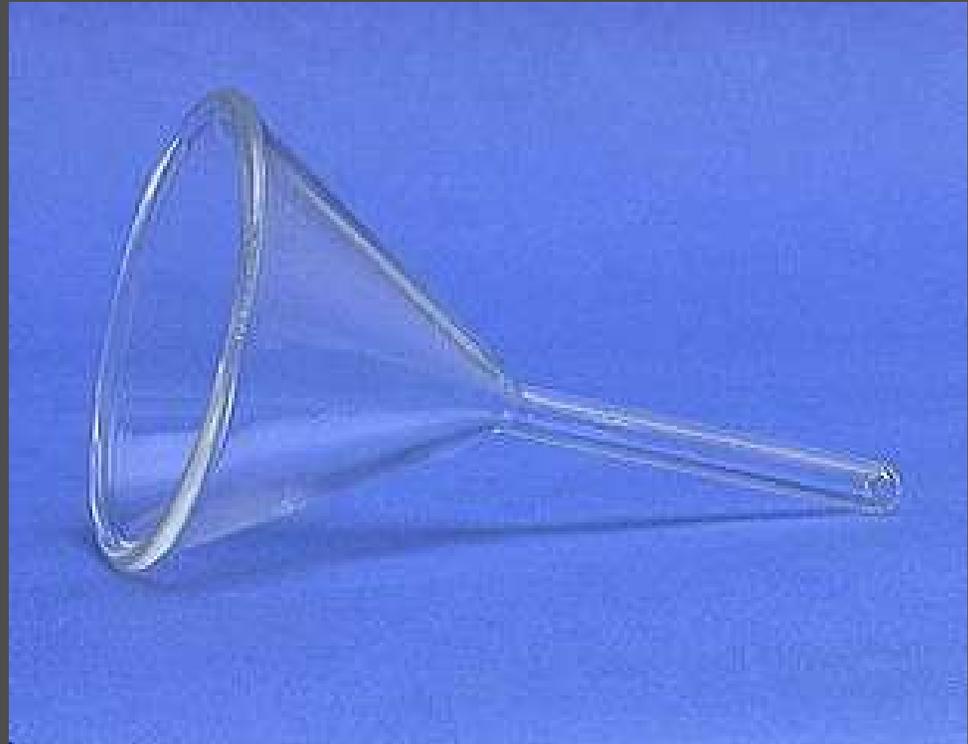
Forceps



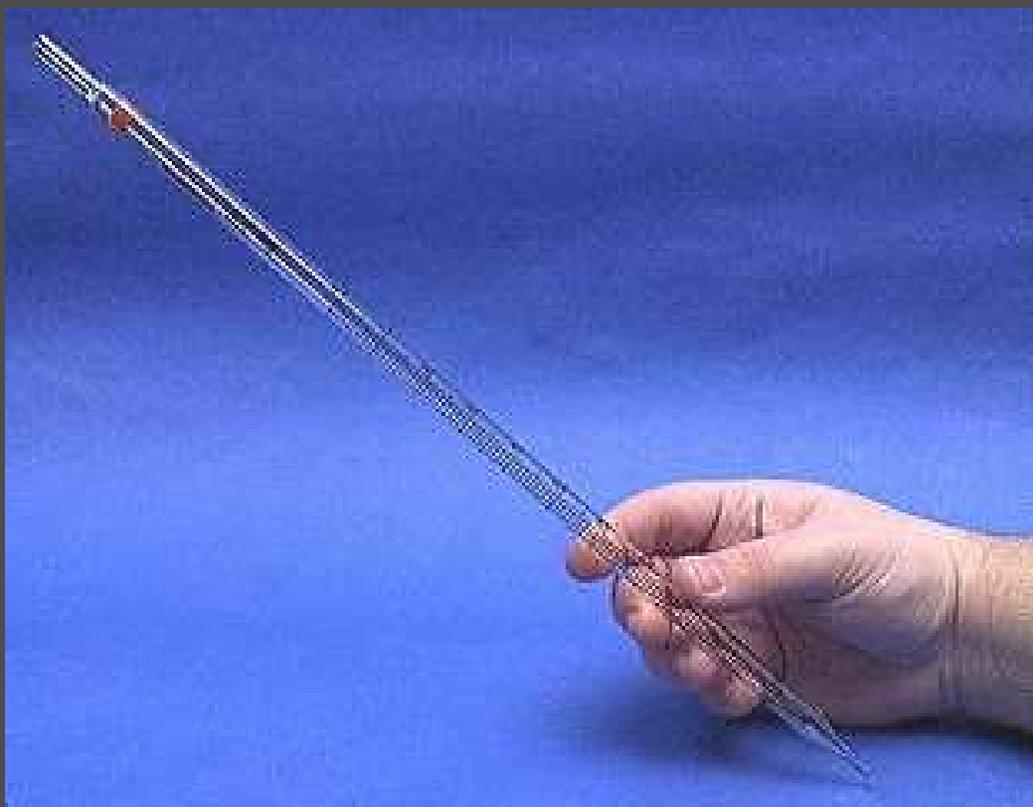
Forceps (or tweezers) are used to pick up small objects.

Funnel

A funnel is used to aid in the transfer of liquid from one vessel to another.



Mohr Pipet (usually called a Graduated Pipet)



A Mohr or graduated pipet measures and delivers exact volumes of liquids.

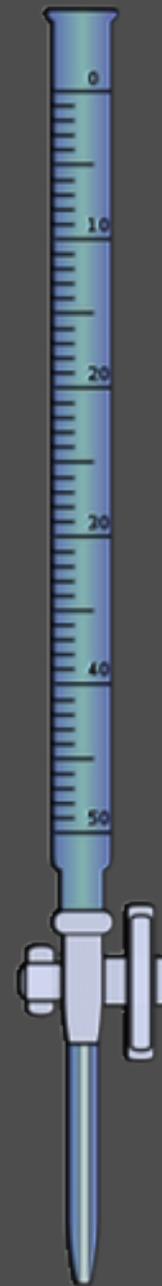
Volumetric Pipet

A Volumetric Pipet only measures one specific volume. They come in a variety of sizes (5 mL, 10 mL, 25 mL etc.) and are more accurate than Graduated Pipets.



Buret

A buret is used to very accurately DISPENSE a certain amount of a solution. They are read to TWO (2) decimal places. It takes practice to read a buret correctly! They are typically used in titrations. 50 mL burets are the most common, but they come in a variety of sizes.



Wash Bottle



A wash bottle has a spout that delivers a wash solution to a specific area. Distilled water is the only liquid that should be used in a wash bottle.

Weighing Boat

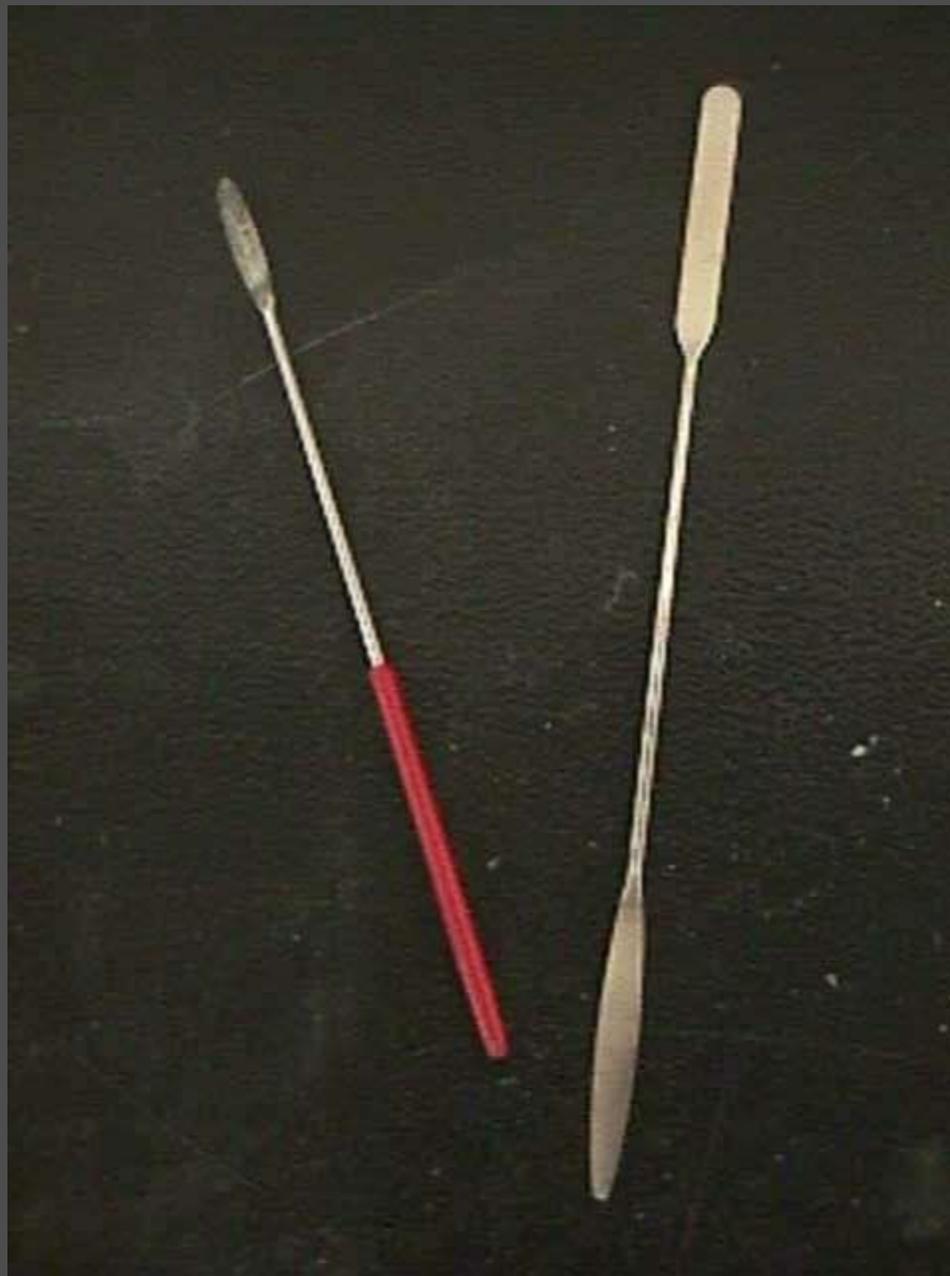
Weighing boats are used to weigh solids that will be transferred to another vessel.



Spatulas

Spatulas are used to dispense solid chemicals from their containers.

Chemicals should never be transferred with your bare hands.



Beaker Tongs



Beaker tongs are used to move beakers containing hot liquids

Bunsen Burner



Bunsen burners are used for the heating of nonvolatile liquids and solids.

Evaporating Dish



The evaporating dish is used for the heating of stable solid compounds and elements.

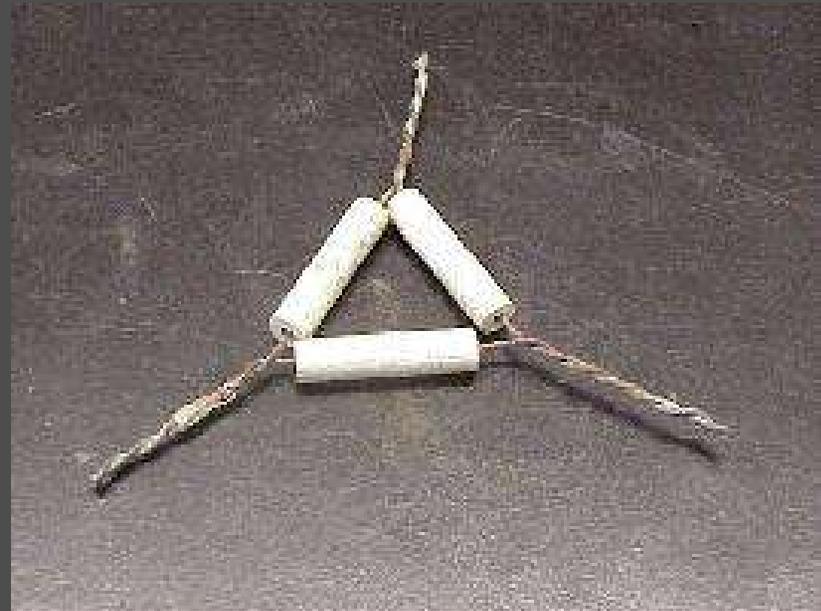
Crucible



Crucibles are used for heating certain solids, particularly metals, to very high temperatures.

Clay Triangle

The clay triangle is used as a support for porcelain crucibles when being heated over a Bunsen burner.



Crucible Tongs

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



Scoopula

Scoopulas are long, scoop-shaped and made of metal. They are used interchangeably with spatulas to transfer solids. They can hold more solid than spatulas, so are usually the better choice for transferring larger quantities of reagents.



Retort Stand

Retort stands are a safe and convenient way to perform many reactions that require heating using a Bunsen burner, or to secure apparatus (e.g. a buret).



Ring Clamp

Ring clamps connect to a retort stand and are often used with clay triangles or wire mesh to provide an elevated platform for the reaction.



Utility Clamp

Utility clamps come in various forms and are used to secure test tubes, distillation columns, thermometers, etc to the retort stand.



Buret Clamp or Holder

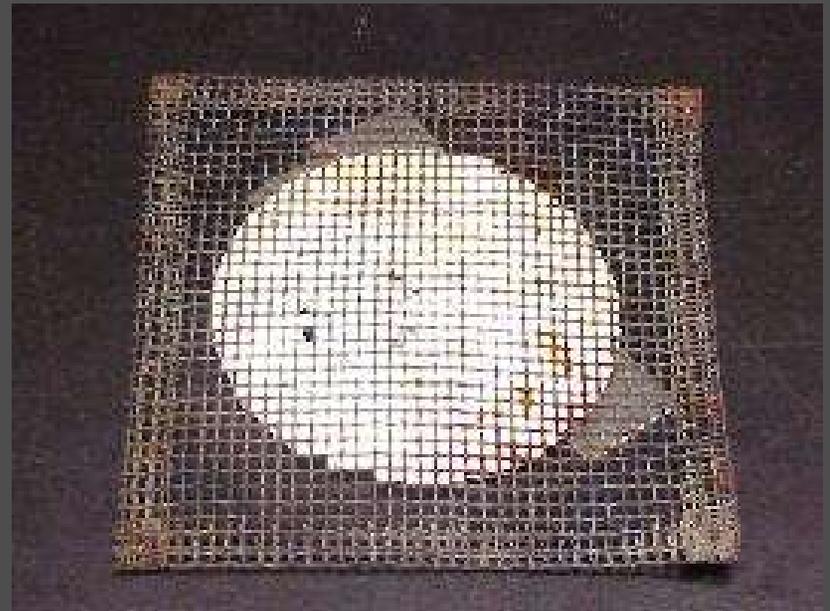
Buret holders are used to hold burets - long graduated tubes used in titration.



Wire Gauze

Wire gauze sits on the ring clamp to provide a place to stand apparatus

On older wire gauze, the white material is asbestos!



Mortar and Pestle

A mortar and pestle is used to grind up solid chemicals into fine powder and crush solids into smaller pieces.



Strikers

Strikers are used to light Bunsen burners.

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

