

# LABORATORY GLASSWARE AND APPARATUS

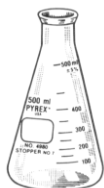
## Beaker

A general purpose container for holding or mixing liquids with a pouring spout. Some beakers have graduations on them indicating approximate volume of contents.



## Erlenmeyer flask

A general purpose container used for holding or mixing liquids. Some flasks have graduations on them to indicate approximate volume of contents.



## Florence flask

Sometimes referred to as a boiling flask. A general purpose container used for holding or boiling liquids.



## Filtering flask

A heavy wall flask designed for use in suction (vacuum) filtration of solutions. Has side hose connection to attach vacuum tubing.



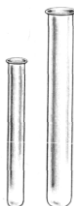
## Volumetric flask

A flask used for preparation of solutions. Volumetric flasks are calibrated to contain a specific volume of liquid or solution.



## Test tube

A round-bottom glass tube used to contain or heat small amounts of materials.



## Centrifuge tube

A test tube with a tapered bottom for use in laboratory centrifuges. Solid materials will collect in the bottom taper during use.



## Funnel

Funnels are used for adding liquid to narrow mouth containers, or, with filter paper, for filtering solutions



## Funnel, powder

A funnel with a short, wide stem for use in pouring powders into narrow mouth containers.



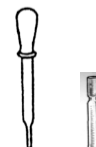
## Graduated cylinder

A measuring device, graduated to contain liquids or solutions. Tall cylinders should be equipped with a plastic bumper to absorb impact if the cylinder is tipped over.



## Dropping pipet

A medicine dropper used to deliver liquids in dropwise amounts.



## Pasteur pipet

A capillary tip dropper used to deliver small drops. These are usually disposable.



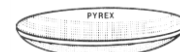
## Rubber bulb

Fits Pasteur, and other dropping pipets. These are reusable.



## Watch glass

A glass dish that can be used for evaporation of small amounts of liquids, for studying small amounts of solids, or as covers for beakers.



## Evaporating dish

A dish used for heating and evaporating samples. Usually made of porcelain or glass.



## Crucible and cover

A cup, with cover, used for heating samples to high temperatures. Usually made of porcelain, glass, or metal.



## Gooch crucible

A crucible with a perforated bottom used for filtering and drying precipitates.



**Casserole**

A crucible with a handle for controlled hand-held heating of samples.

**Wash bottle, plastic**

A squeeze bottle used to produce a steady stream or a few drops of liquid for rinsing materials from test tubes, beakers or flasks.

**Bottle, reagent**

A narrow mouth bottle for holding laboratory reagents. May have a glass or polyethylene stopper.

**Bottle, gas collecting**

A wide mouth bottle commonly used for collecting gases by water displacement.

**Buret**

A graduated measuring device for delivering precise volumes of liquids or solutions.

**Volumetric (Transfer) pipet**

A measuring device calibrated to deliver a specific amount of liquid or solution.

**Mohr (graduated) pipet**

A measuring device calibrated to deliver small quantities of liquid up to the capacity of the pipet.

**Mortar and pestle**

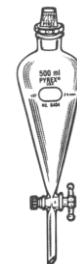
Used for crushing and grinding samples. Usually made of porcelain or glass.

**Büchner funnel**

A funnel, usually made of porcelain, for use in suction filtration of liquids and mixtures.

**Separatory funnel**

Used to separate immiscible liquids or solutions. Contents can be emptied into small flasks or beakers.

**Thistle tube**

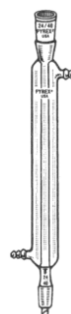
A long stem funnel-type device used when liquids or solutions are added to a reaction in a closed flask.

**Thermometer**

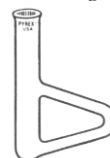
Either mercury or alcohol filled, used to measure temperature in laboratory operations.

**Liebig Condenser**

An in-line cooling device used for distillation or reflux operations. Outer jacket allows water flow for efficient cooling.

**Thiele tube**

Used as an oil bath for melting point determinations. The side arm allows for circulation of hot oil contained in tube.

**Desiccator**

A container used to store materials in a dry, air tight environment. Desiccant is placed on the bottom to absorb moisture assuring a moisture-free environment. Some desiccators can be vacuum sealed.

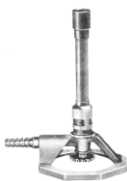
**Bunsen Burner**

A gas burner used for general heating in the laboratory.



**Tirrill Burner**

A variation of a Bunsen burner that contains a needle valve for gas flow regulation. (Often referred to as a Bunsen burner.)

**Meeker burner**

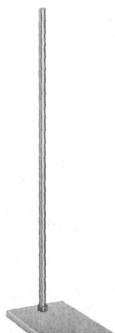
A wide top burner that produces a hotter, larger area flame than a Bunsen burner.

**Wing top (flame spreader)**

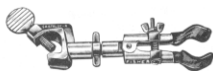
A device that fits on a Bunsen burner to produce a wide, narrow flame suitable for heating a glass tube for glass bending.

**Ring stand support**

Consists of a heavy base with a metal rod for supporting apparatus for a variety of laboratory operations.

**Utility clamp**

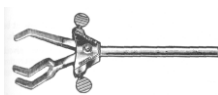
Adjustable clamp for holding a test tube, flask, buret, or other apparatus.

**Extension clamp**

Used with a clamp holder, allows more variation in positioning than a utility clamp.

**3-prong clamp**

Used with a clamp holder, allows for more versatility in holding different types of apparatus

**Extension clamp holder**

Used to attach an extension clamp to a ring stand support or support frame.

**Support ring**

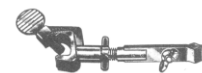
Designed as a base support for beakers or flasks when heated on a ring stand support.

**Spatula and scoopula**

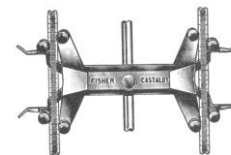
For handling small amounts of solid chemicals.

**Thermometer clamp**

A clamp specially designed to hold a thermometer.

**Double buret holder**

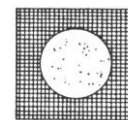
A double clamp for holding two burets.

**Funnel rack**

Used to hold several funnels for filtering operations.

**Wire gauze (ceramic center)**

A support surface to be used with a ring support or tripod to provide uniform heat distribution to a flask or beaker.

**Clay triangle**

Iron wire covered with pipe clay. Used with a ring support for supporting crucibles during heating. Also used, with a ring support, for supporting a funnel when filtering.

**Rubber policeman**

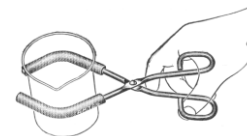
A rubber tip with a flattened end used on a glass rod for scraping solids from containers.

**Water bath**

A metal bowl with a top of concentric rings so that different sized glassware can be fit into the bath.

**Beaker tongs**

Wide-jaw tongs for holding beakers.

**Crucible tongs**

Tongs with oval opening in jaws for holding crucibles. Tips used for handling crucible covers.

**Dish tongs**

Jaws are made to encircle an evaporating dish with fingers to grip the top flange.

**Flask tongs**

V-shaped jaws are used to hold neck of flask.



**Test tube holder**

Spring-type clamp for holding a test tube.

**Forceps**

For handling or manipulating small samples or materials.

**Pinchcock clamp**

A clamp used to pinch rubber tubing closed to stop fluid flow.

**Screw clamp (Hofmann clamp)**

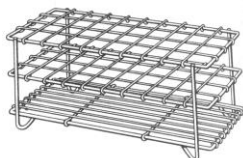
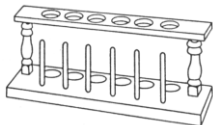
An adjustable clamp used to regulate or stop fluid flow through rubber tubing.

**Triangular file**

A metal file used for scratching glass when cutting it into smaller pieces.

**Test tube rack**

Used for holding test tubes upright. May be made from wood, plastic or metal. Some contain pegs for drying test tubes.

**Test tube brush**

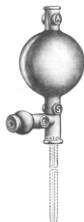
A narrow brush with tufted end for cleaning test tubes

**Beaker brush**

A large sized brush for cleaning beakers or bottles.

**Pipet safety bulbs**

Several styles shown. Used to provide suction for filling pipets. Some bulbs have valves to allow liquid flow from pipets.

**Spot plate**

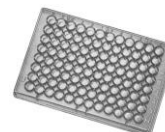
Made of porcelain or glass. Used for small scale chemical reactions and tests.

**Petri dish (culture dish)**

Used for containing small samples or chemical reactions.

**Well plate**

May contain 12, 24, 48, or 96 wells. Used for microscale chemical tests and reactions.

**Water aspirator**

A filter pump that fits on a faucet which is used to produce suction for filtering.

**Pneumatic trough**

A device used for collecting gases by water displacement.

