

# Chemistry Lab Apparatus



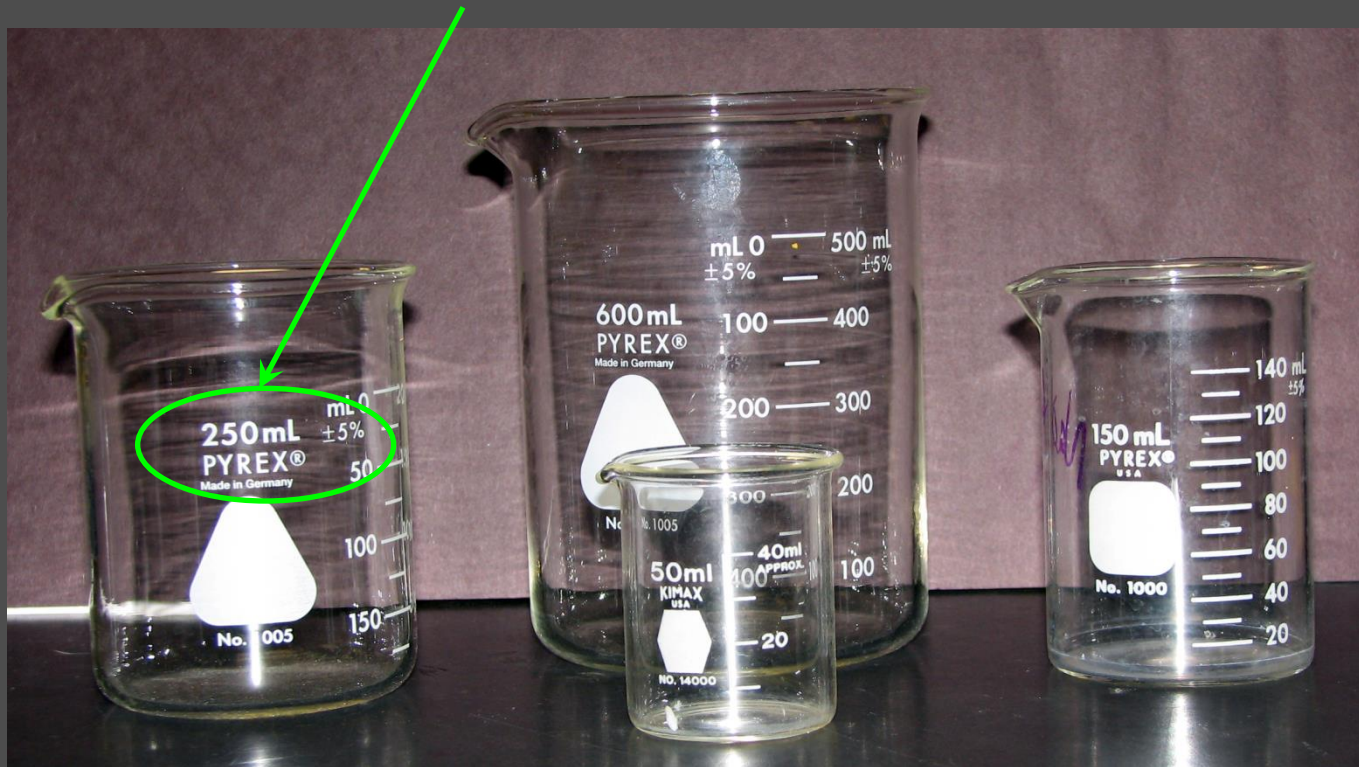
# Apron



- Used to protect clothing

# Beaker

- Beakers hold solids or liquids.
- Very poor accuracy – should only be used to estimate volume



- Note the size capacity (250 mL in this case)

# Beaker Tongs

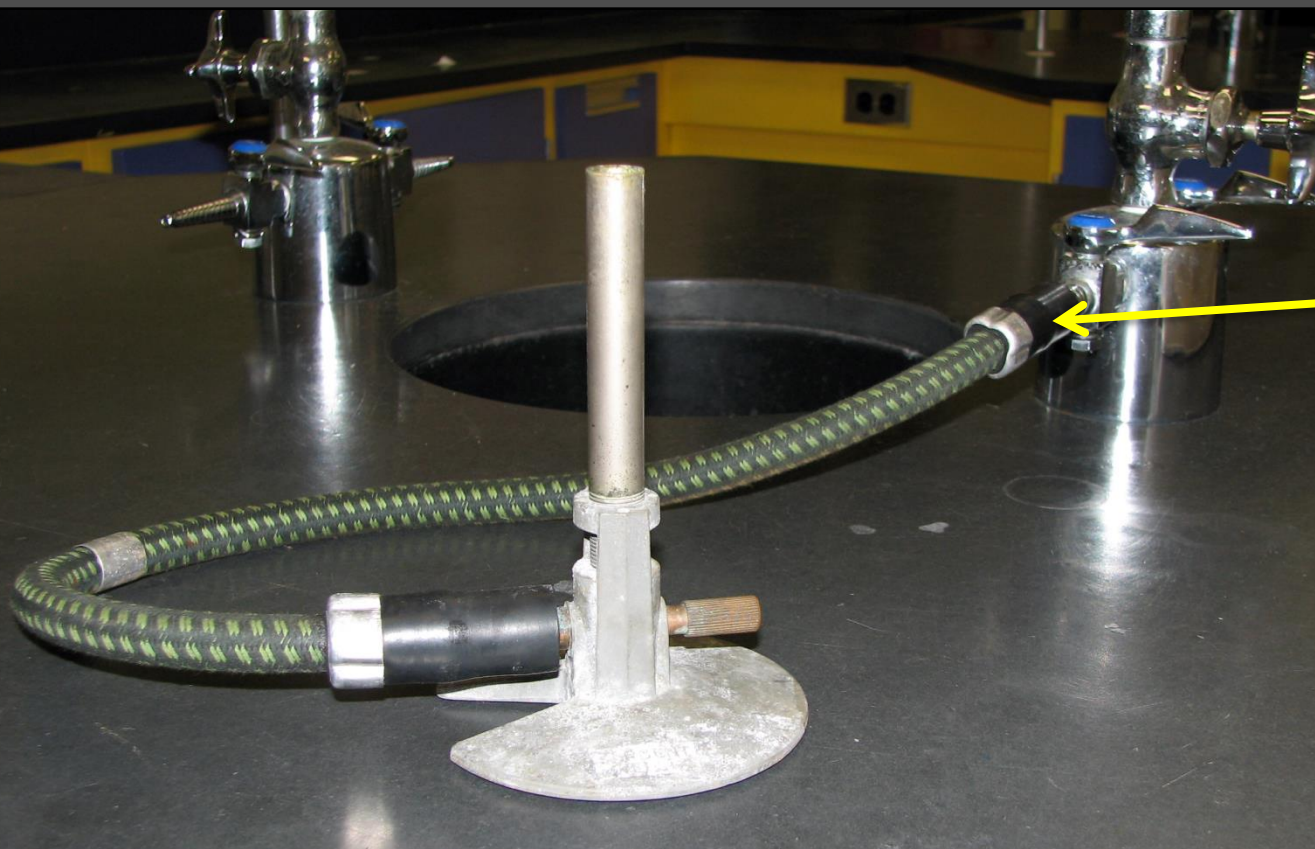


- Beaker tongs are used to move beakers containing hot liquids.
- Note the rubber coating to improve grip -- do NOT hold this in a burner flame.

# Bunsen Burner

- Bunsen burners are used for heating nonvolatile liquids and solids.

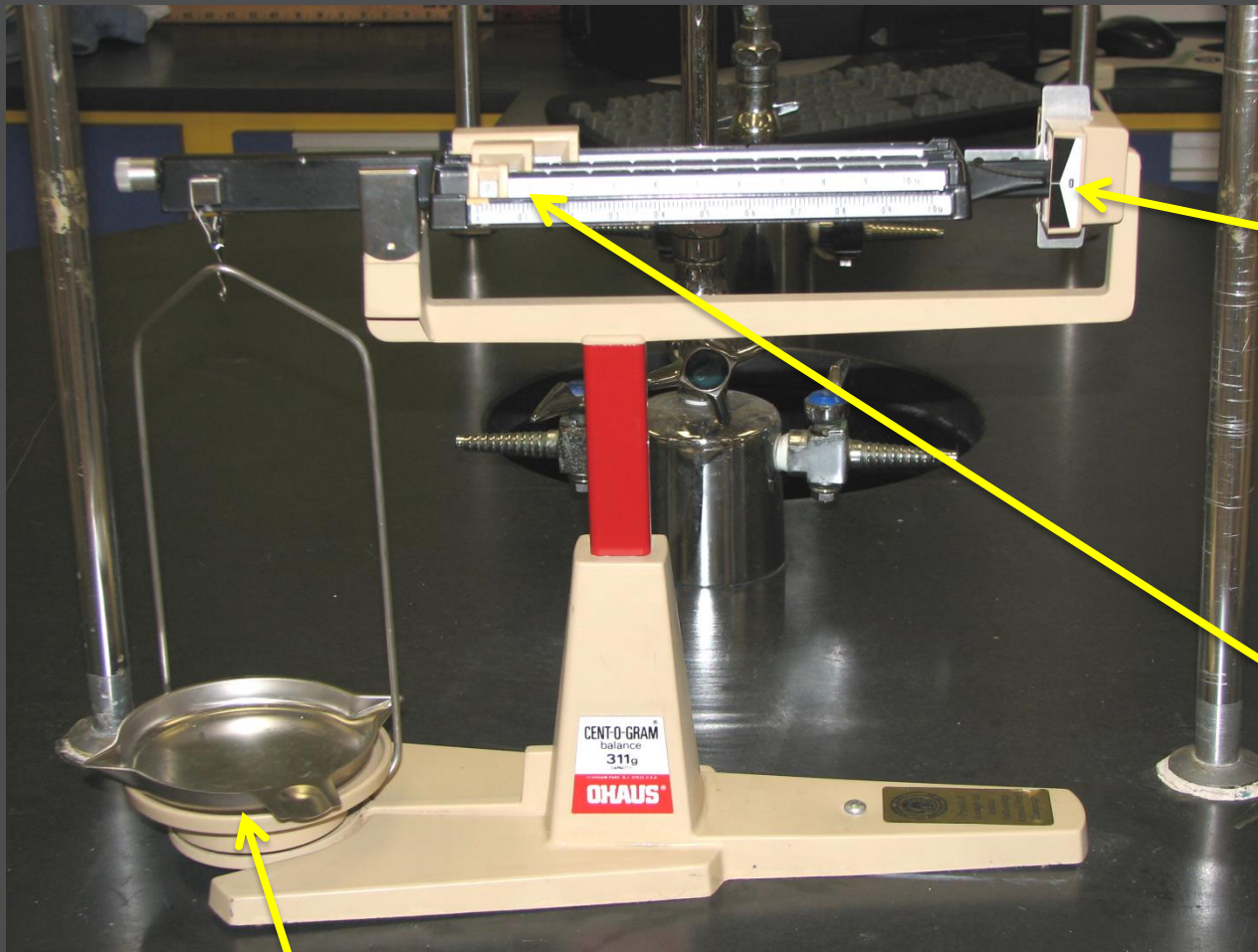
- Make sure the hose is snug on the gas outlet and that there are no cracks in the hose.





# Centigram Balance

- Used to find mass

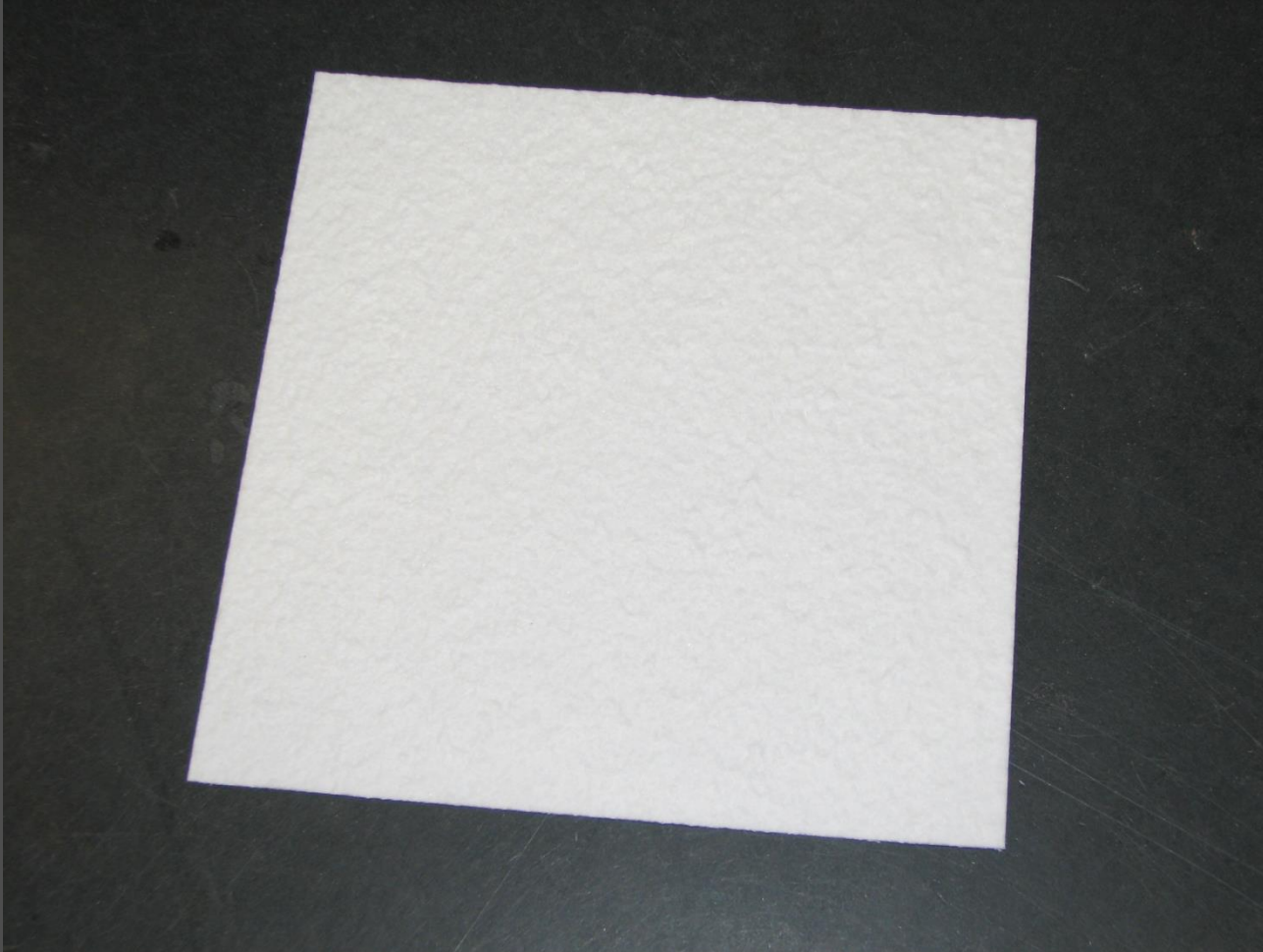


- Make sure balance is zeroed before beginning.

- Never place chemicals directly onto the balance pan.

- Always return the riders to zero when you finish massing.

# Ceramic Fiber Square (Heat Resistant Mat)



- Used to protect hot glassware placed on lab stations
- Placing hot glass on a cool counter can cause it to crack.

# Crucible and cover

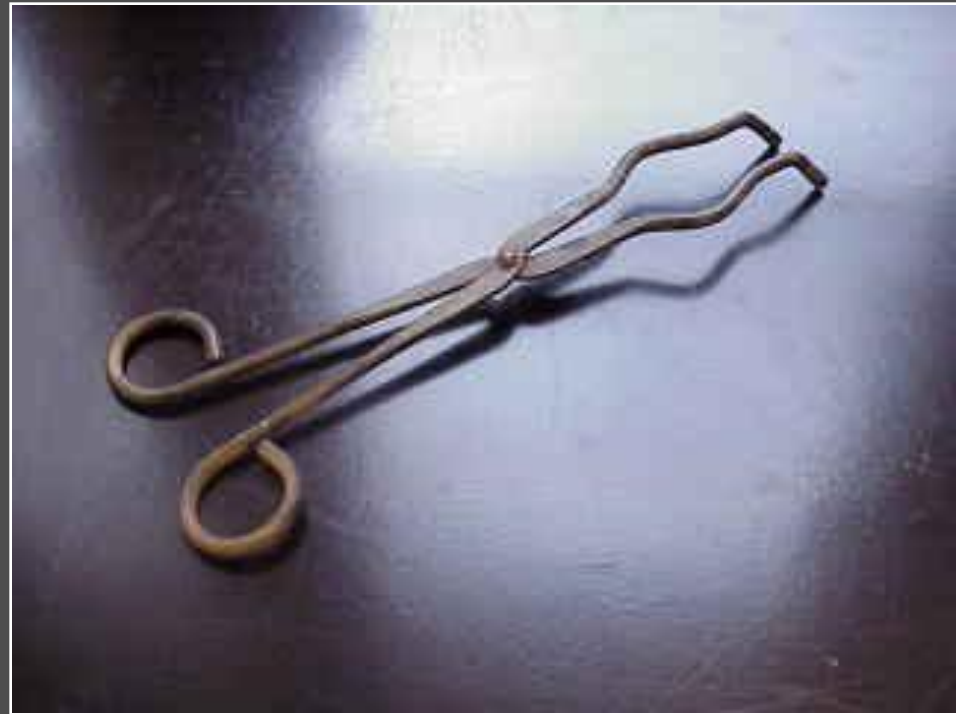


- Used for heating substances to very high temperatures.
- The cover can be used to contain any smoke particles.



# Crucible Tongs

- Used for handling hot objects
- NOT to be used for picking up beakers!

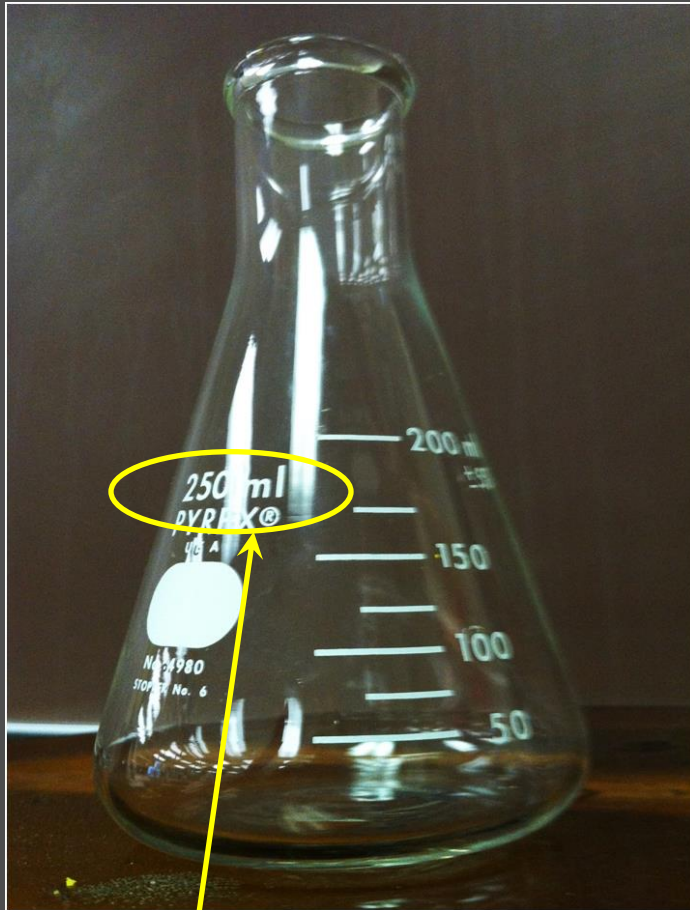


# Deflagrating Spoon



- Used for heating substances until they burn away.

# Erlenmeyer Flask



**Note the size**

- Holds solids or liquids that may release gases or that might splatter

# Evaporating Dish



- Used for evaporating solutions
- Also used for heating solid substances



# Forceps



- Used to hold or pick up small objects.

# Funnel

- Used to transfer of liquids
- Used in filtration
- May be glass or plastic

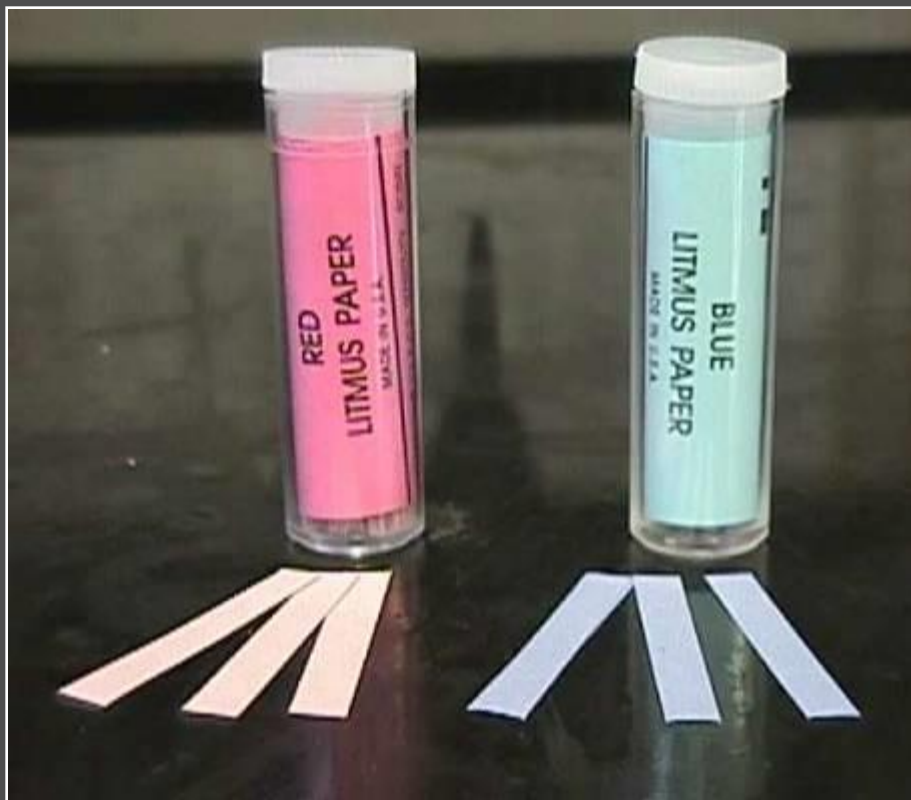


# Graduated Cylinder

- Used to most accurately measure volumes of liquids (in your lab)
- Three sizes are at your lab:  
10 mL, 50 mL  
and 100 mL



# Litmus Paper



- Used to identify acids and *bases*:



# Pasteur Pipet

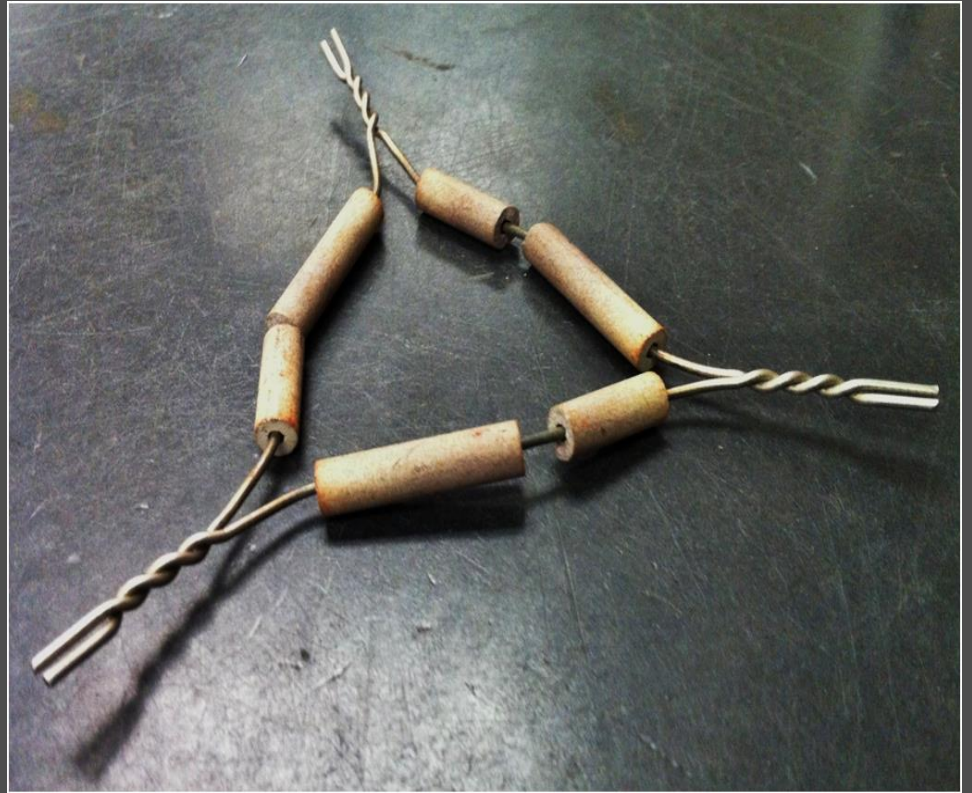


- Used to transfer a small volume of liquid, usually one drop at a time.

- On top of each pipet is a “dropper bulb” – never put your mouth on the dropper to provide suction

# Pipe Stem (Clay) Triangle

- Used to support a crucible being heated
- Used to support a funnel.



# Reaction Plates

- Used to perform many small reactions at one time
- Also called multi-well plates



# Ring Stand

- Used with a Bunsen burner in heating substances.
- Never put them in the cabinet if they are too hot to hold as it can cause a fire.

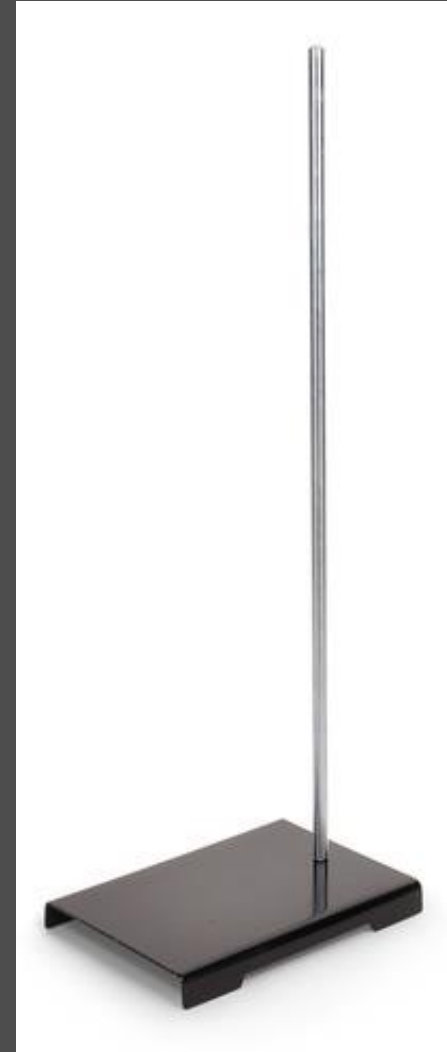


Image source enasco.com



# Iron Ring

- Connect to a ring stand to hold a beaker to be heated.
- Will also hold a pipe stem triangle and funnel during filtering



# Test Tube Clamps

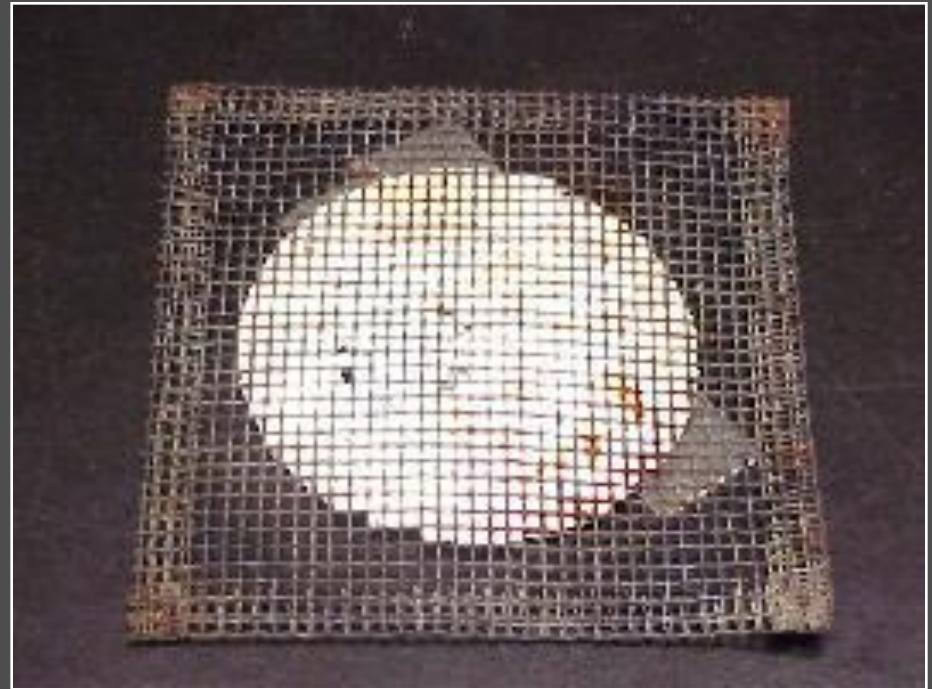
- Used to connect a test tube to a ring stand.



Image source xump.com

# Wire Gauze

- Place on the iron ring to provide a place to stand a beaker.



# 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



- Used to stir solutions

# Striker / Sparker

- Used to light lab burners

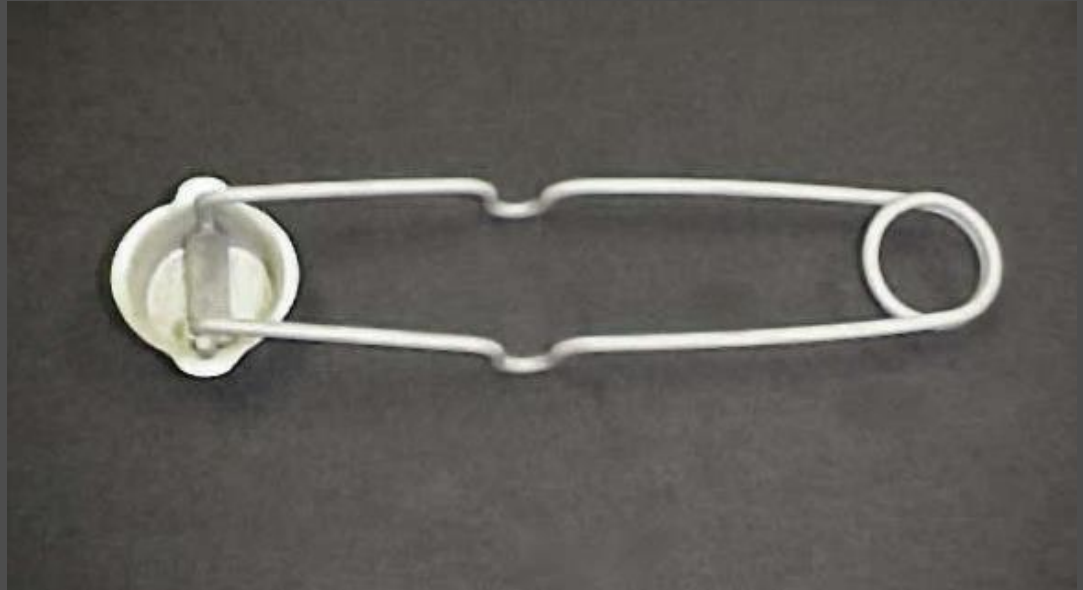
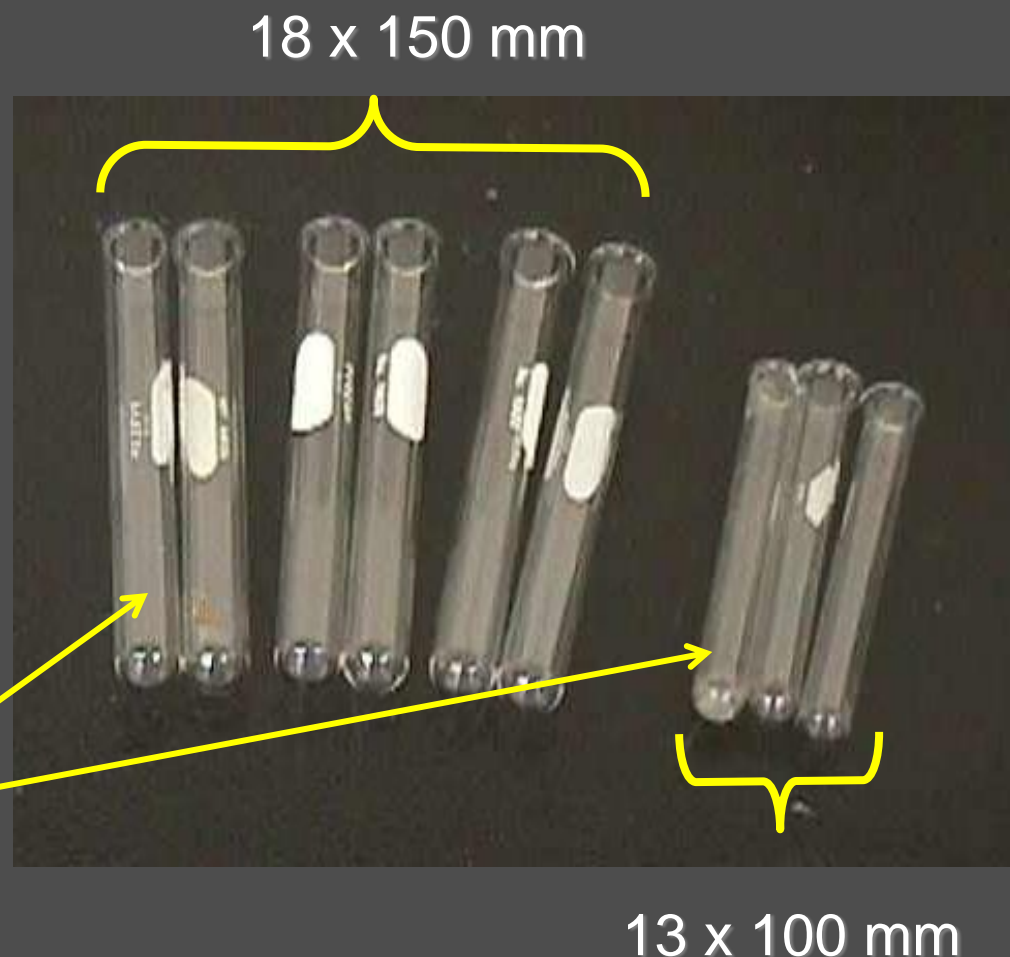


Image source [bluffton.edu](http://bluffton.edu)

# Test Tubes

- Used to mix and heat chemicals
- Only heat test tubes that are Pyrex or Kimax
- We commonly use 2 sizes



# Test Tube Brushes

- 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.



# Test Tube Holder

- Used for holding a test tube that is too hot to handle.
- **Hold at the end!**





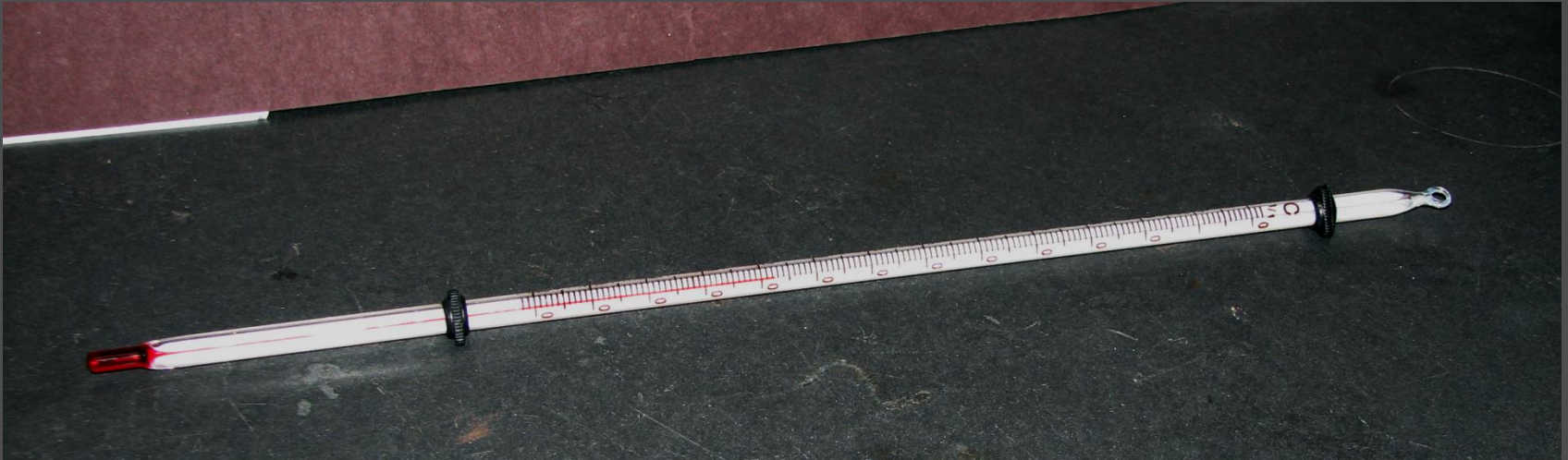
# Test Tube Racks



Image source onekingslane.com

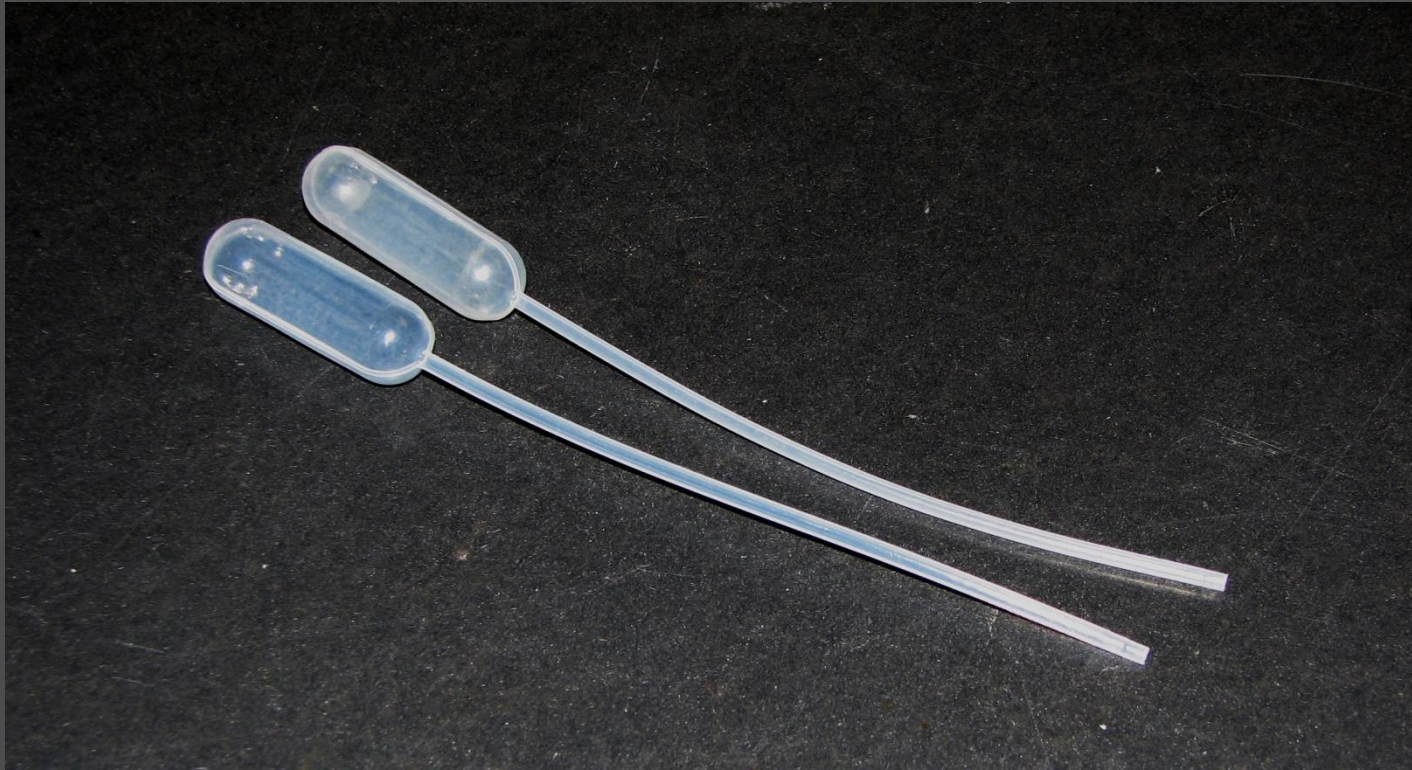
- Used for holding test tubes on the lab station

# Thermometer



- Used to measure temperature
- Never shake thermometers. Never place a thermometer directly into a flame.

# Thin Stem Pipet



- Used to transfer a small volume of liquid



# Watch Glass

- Used as a cover for an evaporating dish or beaker.
- Also used to hold a small amount of solid, such as the product of a reaction.



# Weigh Boat



- Used to mass solids



# Where in the Lab?

Beakers,  
Erlenmeyer  
Flasks,  
and soap

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Graduated  
cylinders  
and test  
tubes

Small, non-  
metallic  
equipment

Cloth  
towels for  
hot stuff

Computer  
chargers &  
cables

Small,  
metallic  
equipment

Aprons

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Bunsen  
Burner  
and Ring  
Stand

# Aprons, Burner, and Ring Stand



# Small Non-Metallic Items Drawer





# Small Metallic Items Drawer

