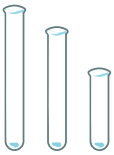
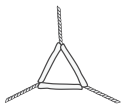
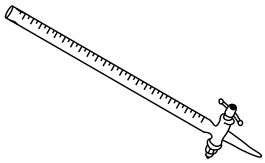
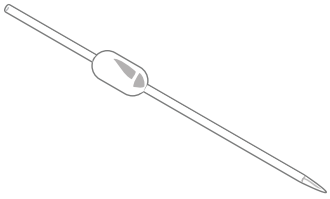
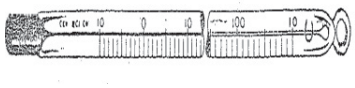
Table 1.1.1 *Commonly Used Glassware in the Chemistry Lab*

Glassware	Name	Use
	beaker	Holding liquids • may be graduated (sometimes in two directions) • has a white spot for labeling • various sizes including 50, 150, 250, 450, 650, and 1000 mL
	Erlenmeyer flask	Holding liquids • shape avoids loss due to splashing • used for titration • common sizes include 125, 250, and 500 mL
	Florence flask	Heating liquids • shape allows even distribution of heat while boiling • never graduated • common sizes include 250 and 500 mL
	test tubes	Holding liquids or solids • can be heated directly or in a water bath • may be used to mix small quantities of chemicals • large variety of sizes
	fluted funnel	Funneling liquids • useful for pouring liquids through small openings • can contain filter paper for separating solids from suspensions by filtration
	evaporating dish	Evaporating solvent • evaporation from a solution • can be used to dry a damp product • ceramic material allows direct heat to high temperatures
	watch glass	Holding or covering • useful for holding a sample of chemical • may cover a beaker or flask to prevent evaporation • holds chemicals while drying
	crucible	Heating to high temperatures • heating covered or partially covered samples • ceramic material may be directly heated until red hot

	pipe stem triangle	Providing a base to hold a crucible • sits atop a wrought-iron ring • stems are made of ceramic material
	graduated cylinder	Measuring volumes of liquids • sizes vary • commonly 10, 25, 50, 100, and 250 mL
	burette	Measuring volumes of liquids • delivers various volumes through a valve called a stop cock • more precise (exact) than the graduated cylinder
	pipette	Measuring volumes of liquids • may be graduated • may be volumetric (designed to deliver one specific volume) • liquid is drawn up with a pipette bulb or suction device
	thermometer	Measuring temperatures • bulb should be submerged in the fluid being measured • temperature ranges vary • most contain dyed alcohol • more precise thermometers contain mercury • commonly measure temperature in degrees Celsius

Quick Check

Working with a partner, design a classification scheme and use it to put the glassware into groups according to common characteristics.

Compare your classification scheme with that of another pair of students.

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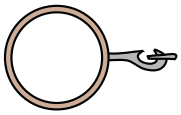
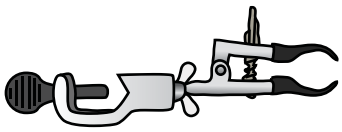
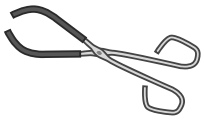
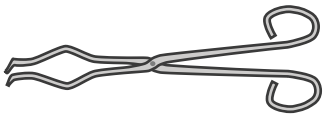
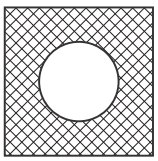
Table 1.1.2 *Commonly Used Hardware in the Chemistry Lab*

Hardware	Name	Use
	ring stand	Providing a post to attach • ring clamps, burette clamps, extension clamps, etc. • also called a utility stand
	ring clamp	Attaching to a ring stand • supports a ceramic pad, a pipe stem triangle, or an evaporating dish • may surround a beaker as a safety ring
	burette clamp	Attaching to a ring stand • holds a burette • may hold a test tube in a stationary position • may support the neck of a flask
	flint striker	Lighting a Bunsen burner • provides a spark by moving a flint across a file
	bunsen burner	Providing heat • adjusts flame temperature by addition of air through the barrel • adjusts flame height by turning the regulator valve
	test tube holder	Holding hot test tubes • used for heating test tubes over flame • used for removing test tubes from water baths
	beaker tongs	Lifting hot beakers • rubber cover allows tongs to firmly grasp and move beakers of all sizes
	crucible tongs	Holding hot crucibles • may remove or adjust crucible lid • holds hot evaporating dishes • NOT designed for lifting beakers or test tubes
	ceramic pad	Providing a base to hold glassware • sits atop a wrought-iron ring • provides a flat surface for beakers or flasks • sometimes called a wire gauze
	scoopula	Moving samples of solids • sometimes called a spatula • should NOT be used as a stirring rod (stirring rods should be glass)