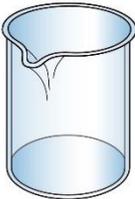
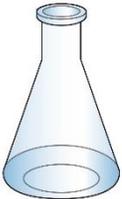


Lab Equipment Guided Notes – Student Edition

In the science laboratory there are many pieces of equipment which have a special purpose. Before beginning to work in a lab it is important that you can identify each piece of equipment, can safely use it. Each piece of equipment is described below.

Containers for Chemicals

Equipment	Function (what it does)
 <p>Beaker</p>	<p>Beakers are used to store a measured amount of _____ in it. They are also used to hold _____ and to mix or heat materials. They come in different capacities including 50 ml, 250 ml, 500 ml, 1000 ml, etc.</p> <p>Beakers have _____ accuracy, so should not be used to measure a volume of liquid.</p>
 <p>Erlenmeyer Flask</p>	<p>These are also known as _____ due to their conical shape. Like a beaker, the flask is also used to hold _____ or _____. They can also be used to _____ a substance and are useful for stirring or _____ a liquid as their shape prevents spillage.</p>
 <p>Test tube</p>	<p>The test tube is the most common piece of glassware used in the Science laboratory. It comes in various _____ and is used to mix liquids, mix solids with a liquid, grow cultures, etc.</p>
 <p>Boiling tube</p>	<p>A boiling tube is a _____, more robust test-tube which can withstand higher amounts of _____. These are used to heat _____ volumes of substance.</p>

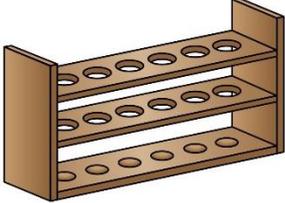
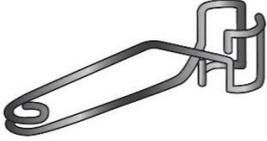
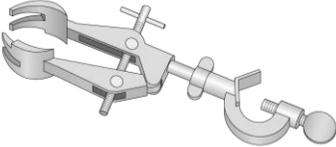
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 <p>Watch glass</p>	<p>These are used to hold a small amount of solid or liquid when _____ it. It can also be used as a _____ for a beaker.</p>
 <p>Evaporating dish</p>	<p>This ceramic vessel is used to _____ substances. The substance may be a solid which needs to _____, or mixture which needs to be evaporated to obtain a crystalline solid.</p>
 <p>Petri dish</p>	<p>A Petri dish is a shallow glass or plastic dish that comes with a cover. It is named after its inventor _____. It is used to grow microbiological cultures.</p>
 <p>Mortar and Pestle</p>	<p>This is a porcelain _____ and rounded club-like tool which can be used to _____ and _____ solids into a fine powder or mixture.</p>

Holding Things

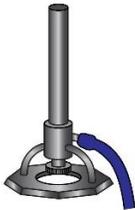
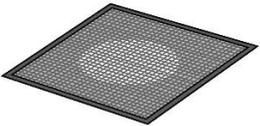
Equipment	Function (what it does)
 <p>Forceps/tweezers</p>	<p>Used for picking up _____ or sterile objects. They are usually metal or sometimes plastic.</p>
 <p>Spatula</p>	<p>A spatula allows small quantities of a solid or to be picked up and _____ to and from any container. It is generally used as a spoon in a laboratory.</p>

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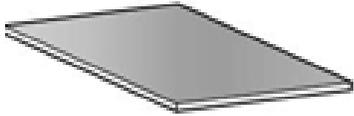
 <p>Test tube rack</p>	<p>This is a stand that is used to hold 5-10 test tubes upright. Some holders have a row of _____ which can be used to invert test tubes for _____ them after your experiment.</p>
 <p>Test tube holder</p>	<p>Used to hold a _____ test tube during or after it has been heated.</p>
 <p>Beaker tongs</p>	<p>Allows you to safely carry a _____ after its been _____.</p>
 <p>Ring stand</p>	<p>A ring stand (also known as a retort or clamp stand) is used with a boss head and clamp. It is used to _____ other pieces of equipment such as burettes, flasks, or Petri dishes in a _____.</p>
 <p>Boss head and clamp</p>	<p>A boss head is a double-ended screw which secures a _____ to a ring stand. The clamp connects to the boss head and holds other _____ such as flasks, usually during heating or separation labs.</p>

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Heating Equipment

Equipment	Function (what it does)
 <p>Striker</p>	<p>Used to _____ a Bunsen burner.</p>
 <p>Bunsen burner</p>	<p>The Bunsen is used for _____ or _____ substances. It has an adjustable collar which changes the color of the _____ from orange (safety) to blue (heating).</p>
 <p>Wire gauze mat</p>	<p>This is a mesh-like structure made of _____. It is used to support a beaker or a flask on top of a _____ while heating. The wire mesh distributes the heat _____ so that there are no hot spots in the substance being heated.</p>
 <p>Clay Triangle</p>	<p>Used to hold a _____ or evaporating dish while its being heated.</p>
 <p>Crucible and lid</p>	<p>Heats small amounts of substance to extremely _____ temperatures.</p>

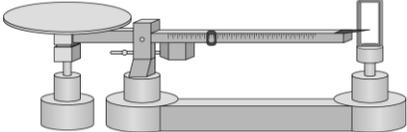
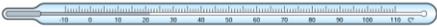
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 <p style="text-align: center;">Tripod</p>	<p>Used to support _____ e.g. beakers and flasks on a wire mat while a substance is being heated with a _____.</p>
 <p style="text-align: center;">Heat proof mat</p>	<p>Is placed underneath any _____ equipment and protects the bench, should anything overflow or _____ out of your experiment.</p>
 <p style="text-align: center;">Hot plate</p>	<p>Hot plates can be used to heat _____ substances in glass beakers. They are usually used when you don't need extremely _____ temperatures like those produced by a _____ burner.</p>
 <p style="text-align: center;">Spirit Lamp</p>	<p>This lamp can be used instead of a _____ . It has a container filled with a _____ such as spirits or alcohol and a wick inside.</p>

Measuring

Equipment	Function (what it does)
	<p>Also known as a _____ , the measuring cylinder is used to accurately measure a _____ of a liquid in milliliters (ml). The measuring cylinder has markings on it so that an _____ amount of liquid can be measured.</p>

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<p>Measuring Cylinder</p>	
 <p>Digital Balance</p>	<p>Also known as an analytical balance. This is used to accurately measure the _____ of any solid.</p>
 <p>Triple Beam balance</p>	<p>Measures the mass of a solid accurately. These have largely been replaced by _____ balances.</p>
 <p>Ruler</p>	<p>Used to measure the _____ of an object, draw graphs and scientific _____.</p>
 <p>Thermometer</p>	<p>Used to accurately measure the _____ of a substance.</p>
 <p>Stopwatch</p>	<p>Used to accurately measure _____ _____ an experiment takes.</p>

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Other Useful Items

Equipment	Function (what it does)
 <p>Dropper bottle</p>	<p>Dispensing liquids _____ at a time.</p>
 <p>Dropper</p>	<p>Droppers allow _____ of liquid to be transferred at a time and can be made of plastic or glass. Disposable droppers are made of plastic and are useful when _____ technique is needed. Glass droppers usually have a _____ attached to draw the liquid into the dropper.</p>
 <p>Test tube brush</p>	<p>Test tube brushes are used to wash and clean _____. Test tubes should always be cleaned after _____ use.</p>
 <p>Wash bottle</p>	<p>Used to _____ specimens, rinsing crystals, and adding a small amount of _____ to an experiment.</p>
 <p>Spot plate</p>	<p>Used to perform _____ which only require a few drops of chemical.</p>

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 <p>Glass stirring rod</p>	<p>Used to _____ chemicals which are hot or need to be _____ . Glass does not react with common lab chemicals, does not conduct heat like _____ or melt like _____ .</p>
 <p>Funnel</p>	<p>Used for filtering substances or pouring _____ from one container into another without _____ .</p>
 <p>Rubber Stopper/Bung</p>	<p>Used to plug a _____ or _____ _____ to ensure the contents is kept inside.</p>