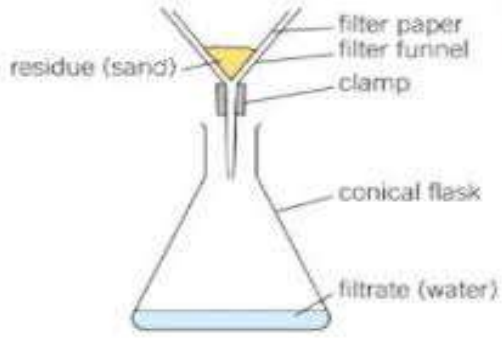


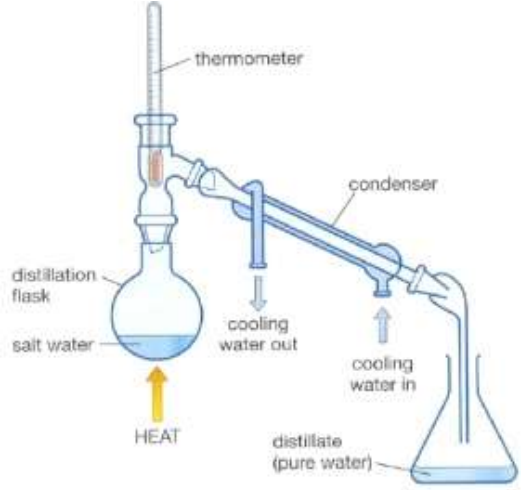
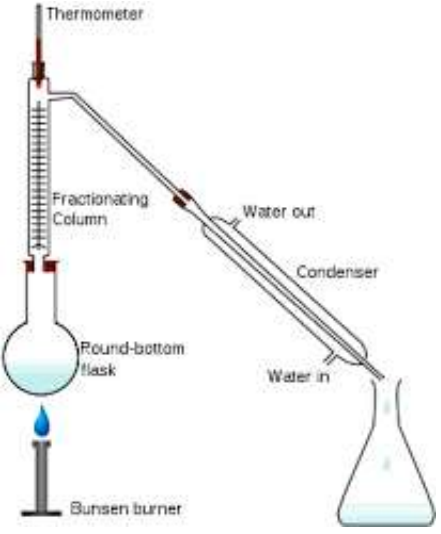


Separation method	What kind of mixture does it separate?	Apparatus (a labelled diagram or list)	Example from GCSE Chemistry
Filtration	It separates an insoluble solid from a liquid.	<p>It works as the insoluble solid is too big to pass the filter paper (this is called the residue) but the liquid can pass through it and drops into the beaker below (this is called the filtrate).</p> 	<p>-Sand and water</p> <p>-coffee grounds and water</p> <p>-excess metal oxide from reacted metal oxide and acid</p>
Evaporation	Evaporation is used to separate a soluble solid from a liquid.	<p>It works by leaving your mixture on an evaporating dish and if left then the solvent will eventually evaporate. This process can happen quicker if you heat the mixture.</p> 	<p>-salt and water</p> <p>-separating water and dry copper sulfate crystals</p>
Crystallisation	Used to separate a soluble solid from a solution.	<p>Once the mixture has been left to evaporate some of the solvent, the mixture can be separated by crystallisation. As solution forms, the solvent can't hold all the solute so it leaves forming crystals.</p> 	<p>-separating water and dry copper sulfate crystals</p>

<p>Simple distillation</p>	<p>This is used for separating a solvent from a solution.</p>	<p>This works as when heating mixture the solvent evaporates and boils but the solute doesn't. Then this evaporated water gets cooled and due to condensation as it goes through a cold tube. It gets turned back into a liquid.</p> 	<ul style="list-style-type: none"> -separating salt from water -separating sugar from water.
<p>Fractional distillation</p>	<p>Fractional distillation is used for separating two liquids that are mixed together.</p>	<p>Some liquids mix together like ethanol and water and these are called miscible. These can be separated by fractional distillation as the liquid with the lowest boiling point will evaporate first (and then follows the same steps as simple distillation. The difference between the two types of distillation is that fractional distillation has a long fractionating column to allow liquids to be separated that have similar boiling points.</p> 	<ul style="list-style-type: none"> -separate ethanol from water (alcohol has a lower boiling point than water so will evaporate and condense before liquid separating them out.) -separating different chemicals from crude oil

<p>Chromatography</p>	<p>It can be used to separate mixtures of soluble substances.</p>	<p>It works by samples of mixtures are placed on chromatography paper. The paper is then lowered into a solvent and the liquid soaks up the paper, and goes up the paper. The liquid also dissolves the ink in it and carries the ink up the paper too. The most soluble substance in the mixture will travel the furthest up the paper but the least won't go that far up.</p>	<p>-Separating inks -separating dyes</p>
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Simple chromatography

