

Separation Techniques

Technique	Separates	Example	How?
Filter paper	Solids suspended in liquids (doesn't work for dissolved solids)	Sand separated from water	Larger solids can't flow through filter paper
Separatory Funnel	Liquids that are not soluble in each other (oil and water)	Oil and water	Liquids that won't "mix" have different densities; least dense "floats" to top
Magnetic separation	Iron from liquids or solids	Iron separated from "Cheerios"	Iron is the only thing "attracted" to the magnet
Crystallization	Solids dissolved in liquids	Boiling salt water leaves the solid salt behind	Solid can only be dissolved in the liquid; if the liquid changes to a gas, the solid is no longer soluble
Simple distillation	Two or more liquids with a significant difference in boiling points	Water and methanol (bp water: 100 C; bp ethanol approx. 81 C)	Liquid with lower boiling point "leaves" the mixture first, and gets condensed back into a liquid in the condenser.
Paper chromatography	Homogeneous mixtures that can be put onto filter paper as a "dot"	Ink from overhead projector pens	Components of the mixture that are most attracted to the liquid in the mobile phase travel up the paper the fastest, separating the mixture in order of attraction for the mobile phase liquid