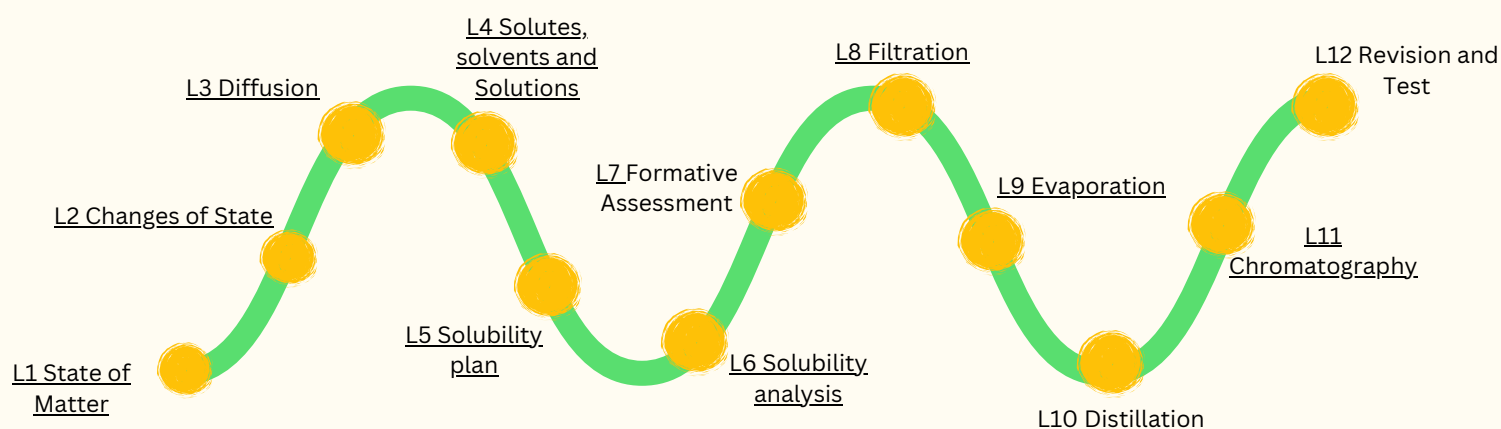


In the States of Matter and Separating Techniques topic, you will learn about the properties and particle arrangements of solids, liquids, and gases. You will explore how substances change state and how temperature affects particles. Later, you will learn how to separate mixtures using techniques like filtration, evaporation, distillation, and chromatography.



Prior learning link: KS1 & 2 - States of matter, properties and changes of material

Key words

- **Solid** – A state of matter where particles are packed closely together and vibrate in fixed positions.
- **Liquid** – A state of matter where particles are close but can move past each other, allowing the liquid to flow.
- **Gas** – A state of matter where particles are far apart and move freely in all directions.
- **Particle** – A small unit of matter; all substances are made up of particles.
- **Melting** – The change of state from solid to liquid when heat is added.
- **Freezing** – The change of state from liquid to solid when heat is removed.
- **Evaporation** – The change of state from liquid to gas at the surface of a liquid.
- **Condensation** – The change of state from gas to liquid when the gas is cooled.
- **Boiling point** – The temperature at which a liquid turns into a gas throughout the substance.
- **Melting point** – The temperature at which a solid becomes a liquid.
- **Sublimation** – When a solid changes directly into a gas without becoming a liquid.
- **Diffusion** – The spreading out of particles from an area of high concentration to low concentration.
- **Mixture** – Two or more substances mixed together but not chemically joined.
- **Solution** – A mixture where a substance (solute) is dissolved in a liquid (solvent).
- **Solute** – The substance that dissolves in a solvent.
- **Solvent** – The liquid that a solute dissolves in.
- **Filtration** – A method used to separate an insoluble solid from a liquid.
- **Evaporation (separation)** – A method used to separate a dissolved solid from a solution by heating.
- **Distillation** – A method of separating a solvent from a solution by boiling and condensing the liquid.
- **Chromatography** – A technique used to separate mixtures of coloured substances, such as inks or dyes.

Revision Resources

[BBC KS3 Particle model of Matter](#)

[BBC KS3 Pure and impure substances](#)