

Science Knowledge Organiser

Topic: States of matter (Solids, Liquids and Gases)

**Year: 3/4
(KS2)**

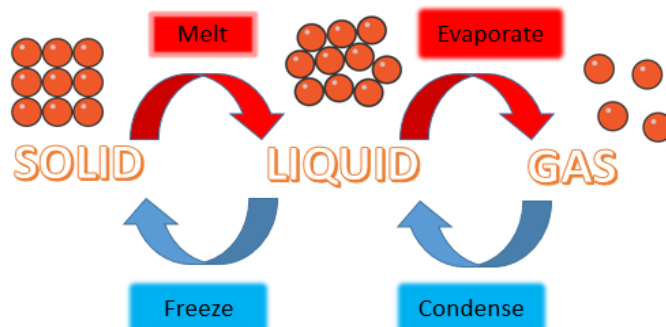
Strand: Chemistry

What should I already know?

- Describe materials based on their properties e.g. hard, flexible, magnetic or transparent.
- Have an understanding of the terms solid, liquid and gas.

What will I know by the end of the unit?

- Some materials change state when they are heated or cooled. For example, chocolate when it is melted, water frozen into ice and condensation with steam turning into water.



Vocabulary

Temperature	how hot or cold something is. Measured in degrees Celsius ($^{\circ}\text{C}$).
Particle	a tiny amount of something. You can't see them with your eyes!
Melting	the process of a solid heating and changing into a liquid.
Evaporation	the process of a liquid heating and changing into a gas.
Condensation	the process of a gas cooling and changing into a liquid.
Freezing	the process of a liquid cooling and changing into a solid.
Precipitation	When water or snow falls from a cloud
Temperature	how hot or cold something is. Measured in degrees Celsius ($^{\circ}\text{C}$).
Particle	a tiny amount of something. You can't see them with your eyes!
Melting	the process of a solid heating and changing into a liquid.

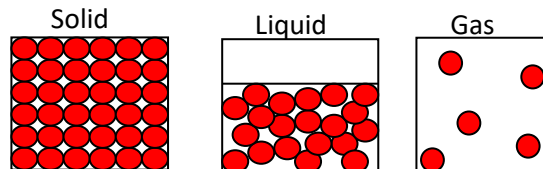
- All **matter** (stuff) is made from **atoms**. You need a very powerful microscope to see atoms. They are tiny!

- A **solid** is something that stays the same shape, can be held in your hands and cut into a new shape. Examples: wood, metal, rock and ice.

- A **liquid** flows and can be poured, it changes shape to fit its container and its volume never changes. Examples: water, juice and oil.

- A **gas** is often invisible, always fills its container and its shape and volume both change. Examples: oxygen, carbon dioxide and hydrogen.

- Particles are arranged differently in solids, liquids and gases.



Key Questions/Investigations

Classifying and Grouping- Comparing and grouping materials into solids, liquids and gases

Observation over Time- Observing materials that change state through heating

Comparative and Fair Testing- Exploring evaporation and condensation