

Knowledge Organiser for Year 4 Science: States of Matter

Related prior knowledge:

Year 1/2 - physical properties of materials



Related future learning:

Y6 - atoms, elements and compounds; physical and chemical reactions

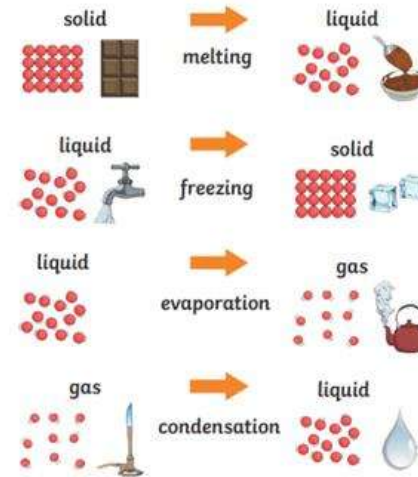
Tier 3 Vocabulary

Matter	Matter is anything that takes up space.
States of matter	Materials can be one of three states: solids , liquids or gases .
Solids	Materials that keep their shape unless a force is applied to them. They can be hard or soft. Solids take up a fixed amount of space.
Gases	Gases can spread out to completely fill the space they are in. They do not have any fixed shape.
Liquids	Liquids take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured.
Melt	The process by which a solid changes to a liquid .
Freeze	The process by which a liquid turns to a solid .
Evaporate	The process by which a liquid turns into a gas .
Condense	The process by which a gas turns into a liquid .
Precipitation	Liquid or solid particles that fall from a cloud as rain, sleet, hail or snow.

Key knowledge

There are three states of matter.

Solid	Liquid	Gas
Particles in a solid are close together and cannot move. They can only vibrate.	Particles in a liquid are close together but can move around each other easily.	Particles in a gas are spread out and can move around very quickly in all directions.



If a **solid** is heated to its **melting** point, it **melts** and changes to a **liquid**.

When a **liquid** is **frozen**, the particles begin to slow down until they don't move and are a **solid** structure.

When a **liquid** is heated, the particles move faster and faster and it turns into a **gas**.

When a **gas** is cooled, it **condenses**, and changes into a **liquid**.

Condensation and **evaporation** occur within the water cycle.

Water from lakes, puddles, rivers and seas is **evaporated** by the sun's heat, turning it into water vapour.

This water vapour rises, then cools down to form water droplets in clouds (**condensation**).

When the droplets get too heavy, they fall back to the earth as rain, sleet, hail or snow (**precipitation**).

