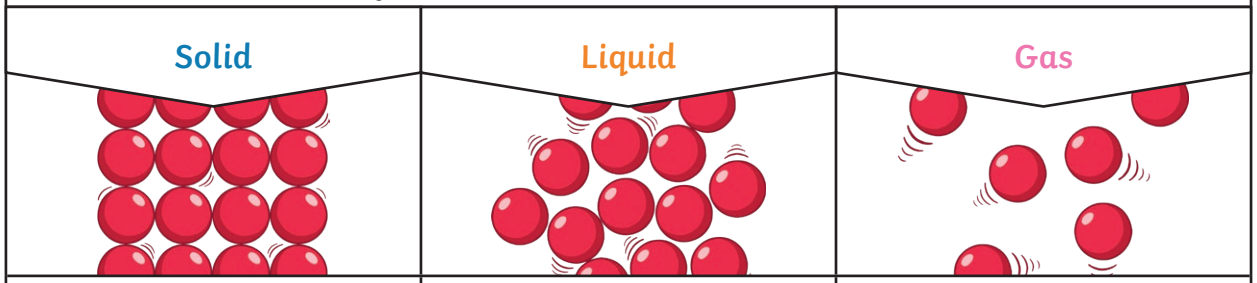
Key Vocabulary

states of matter	Materials can be one of three states: **solids**, **liquids** or **gases**. Some materials can change from one state to another and back again.
solids	These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. **Solids** take up the same amount of space no matter what has happened to them.
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.
gases	**Gases** can spread out to completely fill the container or room they are in. They do not have any fixed shape but they do have a mass.
water vapour	This is water that takes the form of a **gas**. When water is boiled, it **evaporates** into a **water vapour**.

To look at all the planning resources linked to the States of Matter unit, click here.

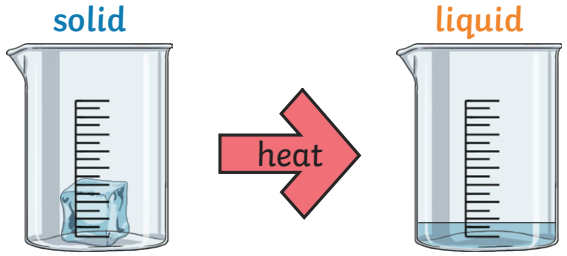
Key Knowledge

There are three states of matter.

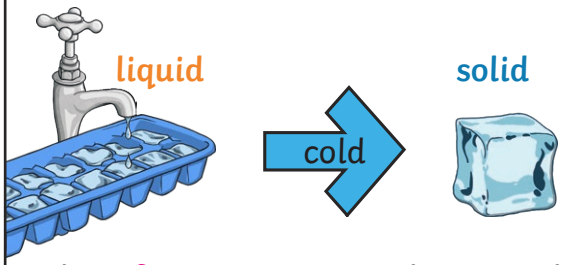


Solid	Liquid	Gas
Particles in a **solid** are close together and cannot move. They can only vibrate.	Particles in a **liquid** are close together but can move around each other easily.	Particles in a **gas** are spread out and can move around very quickly in all directions.

When water and other **liquids** reach a certain temperature, they change state into a **solid** or a **gas**. The temperatures that these changes happen at are called the boiling, **melting** or **freezing** point.



If a **solid** is heated to its **melting** point, it **melts** and changes to a **liquid**. This is because the particles start to move faster and faster until they are able to move over and around each other.



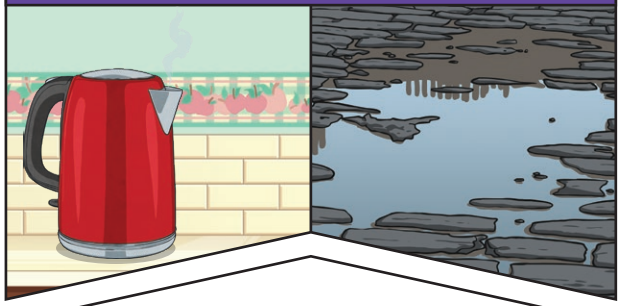
When **freezing** occurs, the particles in the **liquid** begin to slow down as they get colder and colder. They can then only move gently on the spot, giving them a **solid** structure.

Key Vocabulary

melt	This is when a **solid** changes to a **liquid**.
freeze	**Liquid** turns to a **solid** during the **freezing** process.
evaporate	Turn a **liquid** into a **gas**.
condense	Turn a **gas** into a **liquid**.
precipitation	**Liquid** or **solid** particles that fall from a cloud as rain, sleet, hail or snow.

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

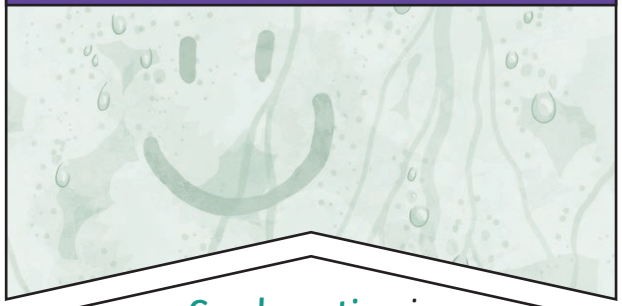
Evaporation



Evaporation occurs when water turns into **water vapour**. This happens very quickly when the water is hot, like in a kettle, but it can also happen slowly, like a puddle **evaporating** in the warm air.

1. Water from lakes, puddles, rivers and seas is **evaporated** by the sun's heat, turning it into **water vapour**.
2. This **water vapour** rises, then cools down to form water droplets in clouds (**condensation**).
3. When the droplets get too heavy, they fall back to the earth as rain, sleet, hail or snow (**precipitation**).

Condensation



Condensation is when **water vapour** is cooled down and turns into water. You can see this when droplets of water form on a window. The **water vapour** in the air cools when it touches the cold surface.