

## Key Learning



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.

**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.

**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.

## Condensation and evaporation happen in the water cycle.

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**).



## Key Vocabulary

<b>States of Matter</b>	Materials can be one of three states: <b>solids</b> , <b>liquids</b> or <b>gases</b> . Some materials can change from one state to another and back again.
<b>Solids</b>	These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. <b>Solids</b> take up the same amount of space no matter what has happened to them.
<b>Liquids</b>	<b>Liquids</b> 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.
<b>Gases</b>	<b>Gases</b> 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.
<b>Water Vapour</b>	This is water that takes the form of a <b>gas</b> . When water is boiled, it evaporates into a water vapour.
<b>Melt</b>	This is when a solid changes to a liquid.
<b>Freeze</b>	Liquid turns to a solid during the freezing process.
<b>Evaporate</b>	Turn a liquid into a gas.
<b>Condense</b>	Turn a gas into a liquid.
<b>Precipitation</b>	<b>Liquid</b> or <b>solid</b> particles that fall from a cloud as rain, sleet, hail or snow.

## Working Scientifically

Setting up practical investigations

Using equipment safely

Using results to draw simple conclusions