

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 .
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.

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.

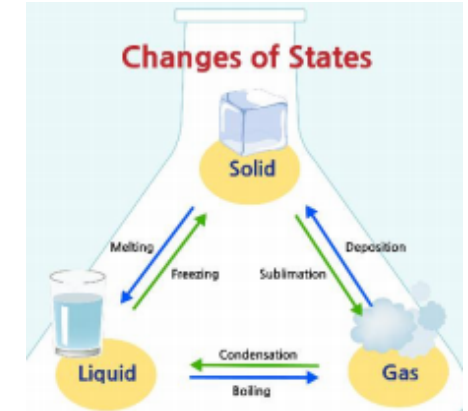
solid → **heat** → **liquid**

liquid → **cold** → **solid**

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.

Property	State of Matter		
	Solid	Liquid	Gas
Shape	Fixed	No fixed shape	No fixed shape
Volume	Fixed	Fixed	No fixed volume
Ability to squash/compress	Can't be compressed	Can't be compressed	Can be compressed
Ability to pour and flow	Can't be poured and it doesn't flow	Can be poured and it does flow	Can be poured and it does flow



Solid	
Liquid	
Gas	

Possible Scientific Enquiry Questions	
Observing over time	How does the level of water in a glass change when left on a windowsill?
Pattern seeking	Is there a pattern in how long it takes different sized ice lollies to melt?
Identifying, classifying and grouping	Can you group these materials into solids, liquids and gases?
Fair testing	How does the mass of a block of ice affect how long it takes to melt?