

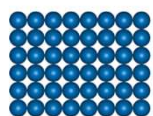


Rocket Words

	thermometer
	melting point
	freezing point
	boiling point
	solid
	liquid
	gas
	evaporation
	particles
	condensation
	water vapour
	substance

States of matter

Everything in our universe is made of **matter**. There are 3 states of matter:



Solid



Gas

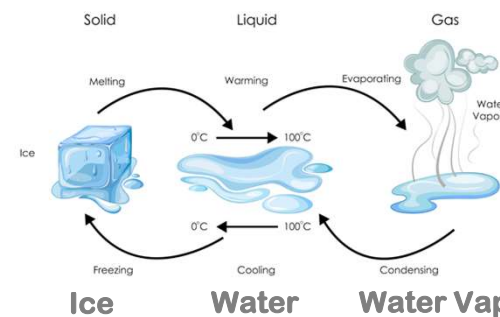


Liquid

Solid particles have **strong** bonds so solids have a fixed shape. **Liquid** particles have **weaker** bonds and more energy so liquids can change shape. **Gas** particles have **really weak** bonds so gases can spread out and move freely.

Changes of state

States of matter can change. Substances can be **heated** or **cooled** to change from one state to another.



In water, the **melting** and **freezing point** is **0°C** and the **boiling point** is **100°C**. Different substances have different melting, freezing and boiling points.

Condensation



When **water vapour (gas)** touches a **cold** surface, the particles **lose energy** and the bonds become **stronger**, turning the gas into a **liquid**.

Evaporation



Heating liquid water **increases** the particle's energy and the bonds become **weaker**, turning it into a **gas**. The **hotter** the temperature, the **faster** the rate of evaporation.



Knowledge Organiser: Year 4 - States of Matter

Before & After Test



Tick the correct statements.

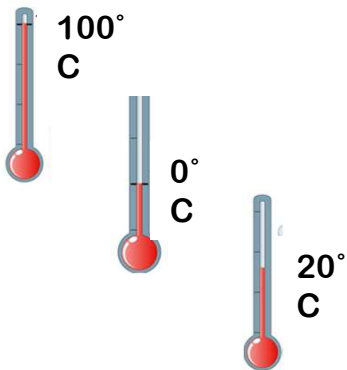
Gas particles have lots of energy.	<input type="checkbox"/>	There are strong particle bonds in liquids.	<input type="checkbox"/>
Solids are a fixed shape.	<input type="checkbox"/>	Solid particles do not have much energy.	<input type="checkbox"/>
Liquids cannot change shape.	<input type="checkbox"/>	Ice is a liquid.	<input type="checkbox"/>
Gases cannot be squashed.	<input type="checkbox"/>	Helium is a solid.	<input type="checkbox"/>

Draw lines to match the labels to the thermometers:

Room temperature

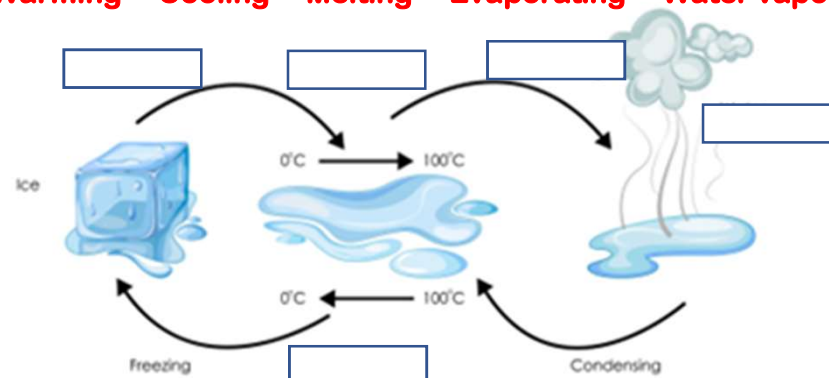
Boiling point of water

Freezing point of water



Add the following labels to the diagram:

Warming **Cooling** **Melting** **Evaporating** **Water vapour**



You have been asked to design an experiment to see whether temperature affects the rate of evaporation.

What is the **variable** you will **change**?

What is condensation?
