

Year 4 - States of Matter - Half Term 3

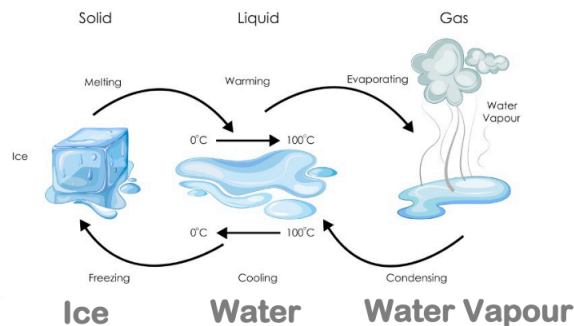
Evaporation



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.

Changes of state

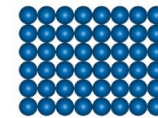
States of matter can change. Substances can be **heated** or **cooled** to change from one state to another.



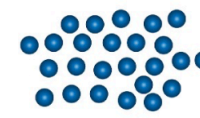
In water, the **melting** and **freezing** point is **0°C** and the **boiling** point is **100 °C**. Different substances have different melting, freezing and boiling points.

States of matter

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



Solid



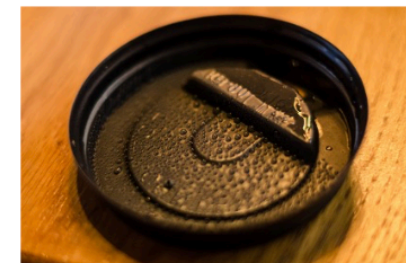
Gas



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.

Condensation



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

Key Vocabulary

thermometer	an instrument that measures temperature in degrees Celsius (°C) or Fahrenheit (°F)
melting point	the point where a solid melts and forms a liquid when heated
freezing point	the point where a liquid freezes and forms a solid when cooled
boiling point	the point where a liquid evaporates and forms a gas when heated
solid	state of matter that holds its form and shape
liquid	state of matter which flows and forms a pool
gas	state of matter which flows, can spread out and can be squashed
evaporation	the process where a liquid turns into a gas when heated
particles	one very small part of matter
condensation	the process where a gas forms a liquid when cooled
water vapour	the name of water as a gas
substance	the material, or matter, of which something is made

To know statements



I know how to compare and group the 3 states of matter.

I know how particles behave in solids, liquids and gases.

I know that some materials change state when they are heated.

I know that some materials change state when they are cooled.

I know about freezing and boiling points.

I know about evaporation and condensation.

What do you already know? (New concept)

What did you know about solids, liquids and gases?
Do you know how heating and cooling can change a material?

Do you know what the terms evaporation and condensation mean?

Anything else you have learnt? What have you enjoyed?

