

CHANGING STATE

Solids, liquids and gases are called the three states of matter. Materials can be changed from one state to another by heating or cooling.

Heating

- If ice (solid) is heated, it changes to water (liquid). This change is called **melting**.
- Water (liquid) can change to water vapour (gas). ~~Heat is called~~ **evaporation**.
- If water (liquid) is heated until it **boils**, it changes to water vapour (gas) very quickly. Water boils at 100°C.

Cooling

- If water vapour (gas) is cooled, it changes to water (liquid). This change is called **condensing**.
- If water (liquid) is cooled, it changes to ice (solid). This change is called **freezing**. Water freezes at 0°C.

FEATURES

- Solids hold their shape. (Salt, sand and sugar are tiny solids so they pour like a liquid but they pile up and are not wet.)
- Liquids form a pool not a pile!
- Gases escape from an unsealed container and fill the entire volume of space.



Materials

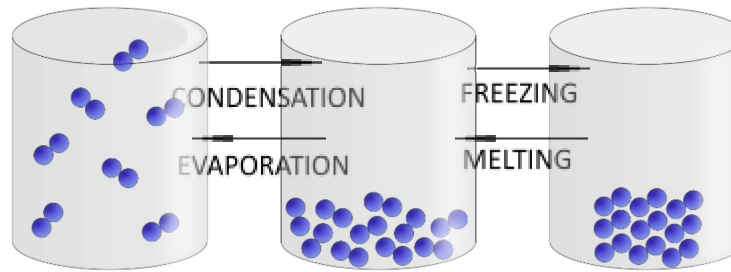
How can substances change?

Three states of matter

GAS: particles far apart and randomly arranged / move around

LIQUID: particles close but randomly arranged / move around

SOLID: particles very close together / vibrate around a fixed position



Gas

Liquid

Solid

Examples

Steam (water vapour)
Hydrogen
Carbon Dioxide
Oxygen

Examples

Water
Milk
Washing up liquid

Examples

Ice
Wood
Glass
Diamond

