Science – Y4

States of Matter

Knowledge Organiser

Key Learning

1. To think about what we already know about solids, liquids and gases.
2. To compare solids, liquids and gases.
3. To group materials together depending on whether they are solids, liquids or gases.
4. To observe that some materials change state.
5. To observe what happens when materials are heated or cooled and measure and research the temperature at which this happens in degrees Celsius.

Key vocabulary

Solid

Liquid

Gases

State change

Melting

Freezing

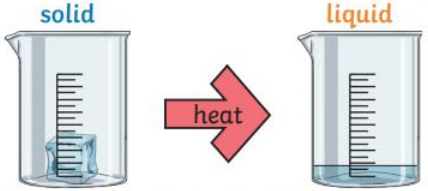
Melting point

Boiling point

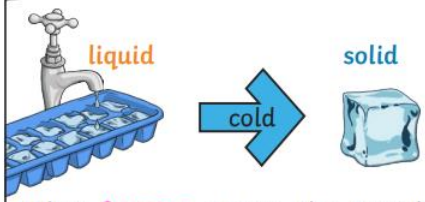
Evaporation

Temperature

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.



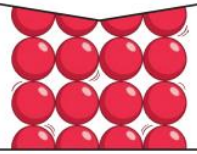
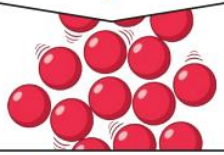
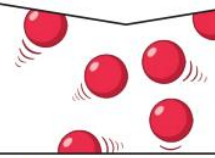
If a solid is heated to its melting point, it melts and changes to a liquid. This is because the particles start to move faster and faster until they are able to move over and around each other.



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.

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.