

Year 4: States of Matter

States of Matter:

Solids, liquids and gases are called the three states of matter. On Earth, all matter exists in one of the three main states. Matter can be changed between states through heating or cooling depending on its temperature.

Changes in Material:

Melting



If a **solid** is heated, it changes to a **liquid**. Different solids melt at different temperatures. Ice melts at 0°C whereas chocolate melts at about 35°C. This means chocolate has a higher melting point.

Freezing

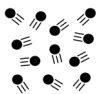


Freezing is when a substance turns from a **liquid** to a **solid**. It is the opposite of melting. Water freezes at 0°C and then becomes ice.

Group materials together:

Gas

Do not have a shape or fixed volume.



Liquid

Their shape changes depending on their container.

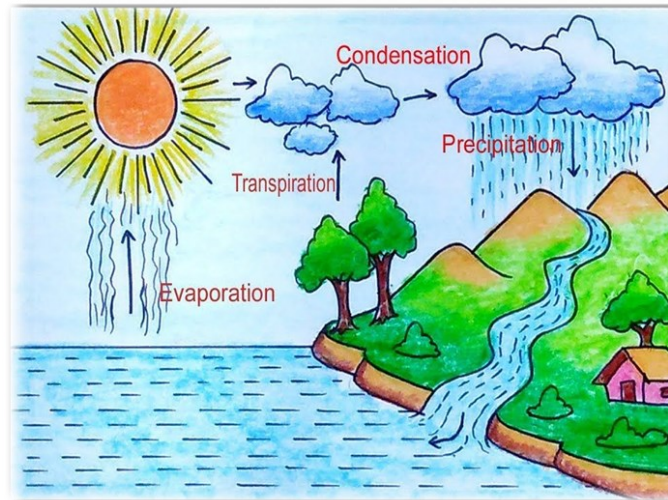


Solid

They keep their shape and always take up the same amount of space.



Water Cycle:



The surface of the Earth is heated by the sun. This increases the temperature of the water in our rivers, lakes and oceans. As a result of this, some of the water **evaporates** into the air, turning into **gas** called **water vapour**.

When **water vapour** rises higher in the sky, it begins to cool and turn back into a **liquid** forming water droplets. Clouds form from these water droplets. This is **condensation**.

When the water droplets in the clouds become too heavy for the air to hold them, they fall back to earth as **precipitation**.

Key Vocabulary:



Condensation: The process of a gas cooling and changing to a liquid.



Evaporation: The process of a liquid heating up and changing into a gas.



Freezing: The process of cooling a liquid so it turns into a solid.



Gas: A material whose particles move very quickly and freely in any space they may find themselves in.



Liquid: A material whose particles have gaps between them and moderate energy.



Melting: The process of changing something from a solid to a liquid.



Precipitation: Rain, snow, sleet or hail that falls to or condenses on the ground.



Solid: In a solid, particles are packed closely together and arranged in a regular pattern.



Water Cycle: The continuous journey water takes from the sea, to the sky, to the land and back to the sea.



Water Vapour: Water vapour is water in its gas state. It is part of the water cycle.