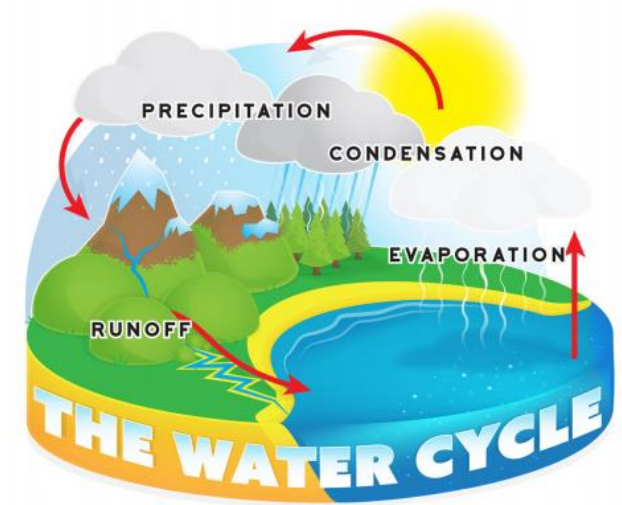
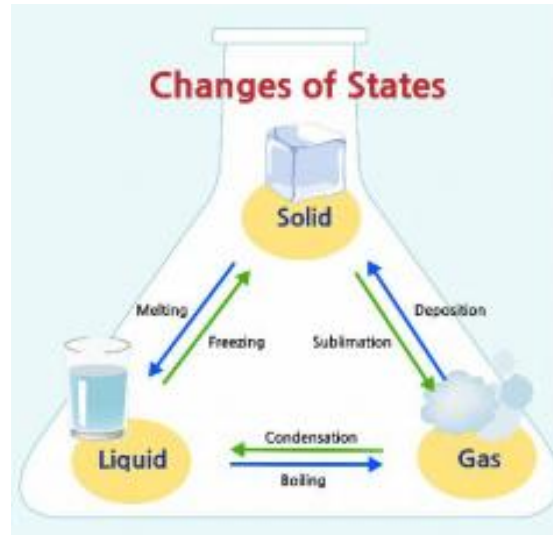


Year 3 - States of Matter

Key Vocabulary

Condensation	Small drops of water which form when water vapour or steam touches a cold surface, such as a window
Cooling	Lowering the temperature of something
Evaporation	To turn from liquid into a gas; pass away in the form of water vapour
Freezing	When a liquid becomes a solid, because of low temperatures
Freezing point	The temperature at which a substance freezes. The freezing point of water is 0°C
Gas	A form of matter that rapidly spreads out when it is warmed and contracts when it is cooled
Heating	Raising the temperature of something
Liquid	A form that flows easily
Melting	To change from a solid to a liquid state through heat or pressure
Particles	A tiny amount or small piece
Precipitation	Rain, snow, sleet, dew, formed by condensation of water vapour in the atmosphere
Process	A series of actions used to produce something
Properties	The ways in which an object behaves
Solid	Having a firm shape or form that can be measured in length, width and height; not like a liquid or gas
Temperature	A measure of how hot or cold something is
Vibrations	When something vibrates, it shakes with repeated small, quick movements
Water cycle	The process by which water on the Earth, evaporates, then condenses in the atmosphere, and then returns to the Earth in the form of precipitation
Water vapour	Water in a gaseous state, due to evaporation






The Water Cycle

1	Energy from the sun heats up the water in our rivers, lakes and oceans
2	Water evaporates into the air, turning into gas called vapour
3	The water vapour rises up into the sky where it cools
4	The water vapour turns back into a liquid, forming clouds. This process is called condensation
5	Eventually the water droplets in the clouds become too heavy for the air to hold them
6	The water droplets fall back down to Earth as rain, snow, hail or sleet. A process known as precipitation
7	The fallen precipitation is collected in rivers that flow to the sea. This is called runoff
8	The water cycle then begins again as the sun heats the water

Key Knowledge

What is a particle?	<ul style="list-style-type: none"> • What materials are made from • They are so small that we cannot see them with our eyes • The properties of a substance depend on what its particles are like, how they move and how they are arranged • Particles behave differently in solids, liquids and gases
What is a solid?	<ul style="list-style-type: none"> • In a solid state, the material holds its shape • Solids have vibrating particles which are closely packed in and form a regular pattern • Solids have a fixed shape and cannot be poured • Solids always take up the same amount of space
What is a liquid?	<ul style="list-style-type: none"> • In a liquid state, the material holds the shape of the container it is in • Liquids can change shape, depending on the container • The particles are close together but random • The particles can move over each other • Liquids can be poured
What is a gas?	<ul style="list-style-type: none"> • In the gas state, particles can escape from open containers • The particles spread out and move in all directions
What happens to the particles in water when it is heated, or cooled?	<ul style="list-style-type: none"> • When water is heated, the particles start to move faster and faster until they have enough energy to move freely. The water has evaporated into water vapour • When water is cooled, the particles start to slow down until a solid structure (ice) is formed. The water has frozen

solid	liquid	gas
		
● rigid	● not rigid	● not rigid
● fixed shape	● no fixed shape	● no fixed shape
● fixed volume	● fixed volume	● no fixed volume
cannot be squashed	cannot be squashed	can be squashed
Solid (at room temperature)	Liquid (at room temperature)	Gas (at room temperature)
Wood Iron Copper Plastic	water milk blood oil	oxygen carbon dioxide nitrogen steam