

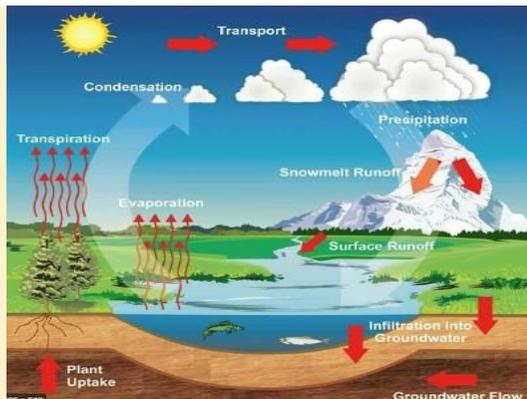
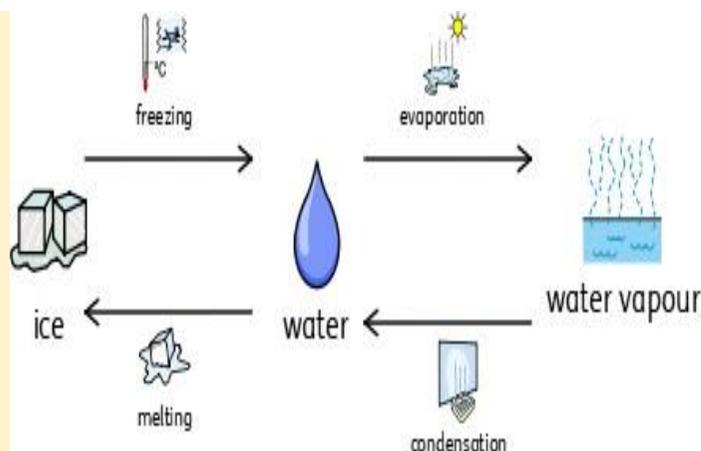


Year 4
 Topic: States of matter
 Strand: Chemistry

What I should already know.

- Why some materials are used for certain purposes because of their **properties**.
- The **water cycle**, and the **processes** of **evaporation**, **condensation** and **precipitation**.

Diagram



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 gas; pass away in the form of vapour .
Freezing	If a liquid or a substance containing a liquid freezes , it becomes solid because of low temperatures .
Freezing point	The freezing point of a particular substance is the temperature at which it freezes . The freezing point of water is 0°C.
Gas	A form of matter that is neither liquid nor solid . A gas rapidly spreads out when it is warmed and contracts when it is cooled .
Heating	Raising the temperature of something.
Liquid	In a form that flows easily and is neither a solid nor a gas .
Melting	To change from a solid to a liquid state through heat or pressure.
Melting point	The melting point of a particular substance is the temperature at which it melts .
Particles	A tiny amount or small piece.
Precipitation	Rain, snow, sleet, dew, etc, formed by condensation of water vapour in the atmosphere.
Process	A series of actions used to produce something or reach a goal.
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 a 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 earth in the form of precipitation .
Water vapour	Water in the gaseous state, esp when due to evaporation at a temperature below the boiling point.

What will I know by the end of the unit?

What is a particle ?	<ul style="list-style-type: none"> • Particles are what materials are made from. • They are so small that we cannot see them with our eyes. • The properties of a substance depend on <u>what its particles are like, how they move and how they are arranged.</u> • Particles behave differently in solids, liquids and gases.
What is a solid ?	<ul style="list-style-type: none"> • In the solid state, the material holds its shape. • Solids have vibrating particles which are closely packed in and form a regular pattern. • This explains the fixed shape of a solid and why it can't poured. • Solids always take up the same amount of space.
What is a liquid ?	<ul style="list-style-type: none"> • In the liquid state, the material holds the shape of the container it is in. • This means that liquids can change shape, depending on the container. • Liquids have particles which are close together but random. • Liquid 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. • Gases have particles, which are 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 (in its liquid form) is heated, <u>the particles start to move faster and faster until they have enough energy to move about more freely.</u> The water has evaporated into a water vapour. • When water is cooled, the particles start to slow down until a solid structure (ice) is formed. The water has frozen. • The temperature at which water turns to ice is called the freezing point. This happens at 0°C.