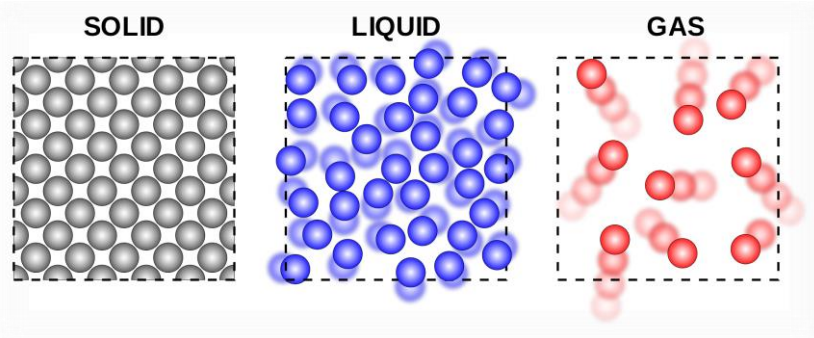
Year 4 Knowledge Organiser- States of Matter

Key Vocabulary	
States of Matter	Materials can be one of three states: solids, liquids or gases. Some materials can change from one state to another and back again.
Solids	These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. Solids take up the same amount of space no matter what has happened to them.
Liquids	Liquids take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured.
Gases	Gases can spread out to completely fill the container or room they are in. They do not have any fixed shape but they do have a mass.
Water Vapour	This is water that takes the form of a gas. When water is boiled, it evaporates into a water vapour.
Melt	This when a solid changes to a liquid.
Freeze	Liquid turns to a solid during the freezing process.
Evaporate	Turn a liquid into a gas.
Condense	Turn a gas into a liquid.
Precipitati	Liquid or solid particles that fall from a cloud as rain, sleet, hail or

States of Matter

There are three states of matter:



- 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.

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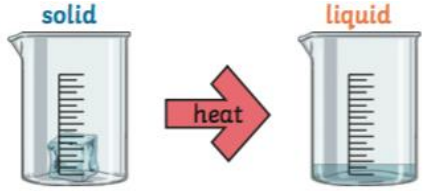
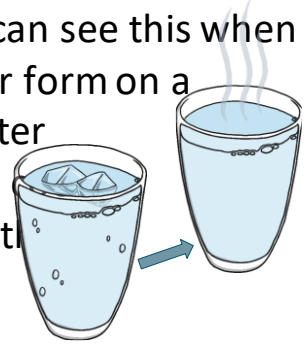
Changing Solids

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 a



Changing Gases

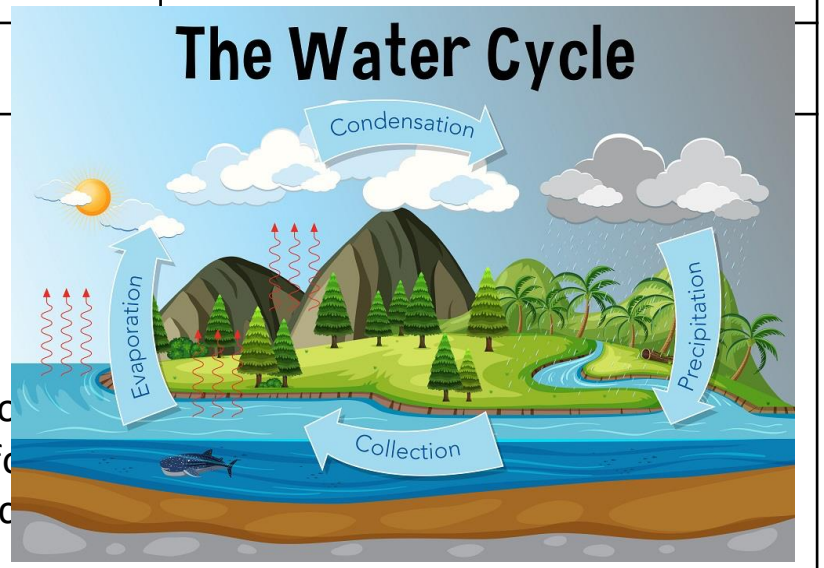
Condensation is when **water vapour is cooled down and turns into water**. You can see this when droplets of water form on a window. The water vapour in the air (
when it touches t
cold surface.



The Water Cycle

The water cycle shows the Continuous movement of water within the Earth and atmosphere.

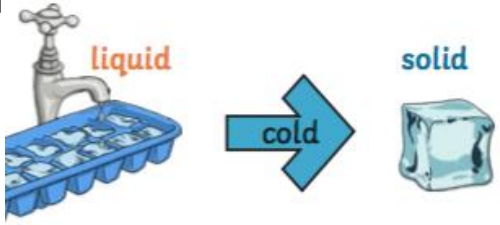
Liquid water evaporates into
water vapor, condenses to fo
clouds, and precipitates bac
to earth in the form of rain
and snow.



Changing Liquids

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**.

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.



Evaporation occurs when water turns into water vapour. This happens very quickly when the water is hot, like in a kettle, but it can also happen slowly, like a puddle evaporating in the warm air.