




# Year 4 Science Knowledge Organiser – States of Matter

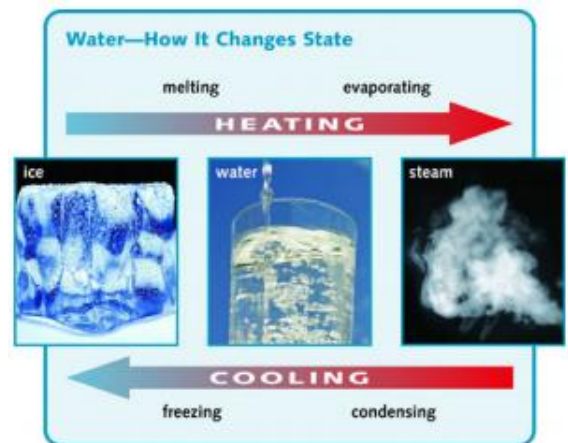
## States of Matter

States of matter		
<b>solid</b>	<b>liquid</b>	<b>gas</b>
		
● 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

<b>State</b>	On Earth, all <b>matter</b> exists in one of three different <b>states</b> : solid, liquid or gas.
<b>Solid</b>	A substance that stays the same shape whether it is in a container or not
<b>Liquid</b>	A substance that can flow and take on the shape of a container
<b>Gas</b>	A substance that has no fixed shape, like oxygen.
<b>Particles</b>	<b>Particles</b> are tiny bits of matter that make up everything in the universe.

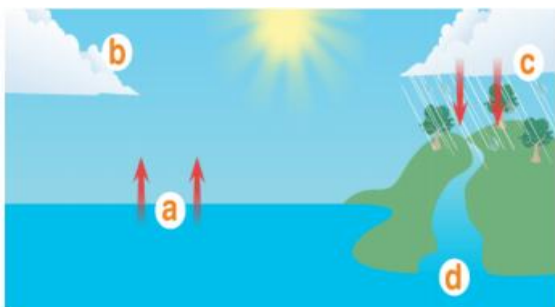
## Changes of State

<b>Changes of state</b>	When a material changes from one material type to another, we say 'it has changed state.'
<b>Evaporation</b>	The process of a liquid heating and changing into a gas.
<b>Condensation</b>	The process of a gas cooling and changing into a liquid.
<b>Freezing</b>	The process of a liquid cooling and changing into a solid.
<b>Melting</b>	The process of a solid heating and changing into a liquid.
<b>Temperature</b>	How hot or cold something is. Measured in degrees Celsius ( °C).



## The Water Cycle

<b>Water Cycle</b>	Water on Earth is constantly moving. It is recycled over and over again. This is called the Water Cycle.
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### a. Water evaporates into the air

The sun heats up water on land, and in rivers, lakes and seas and turns it into water vapour. The water vapour rises into the air.

### b. Water vapour condenses into clouds

Water vapour in the air cools down and changes back into tiny drops of liquid water, forming clouds.

### c. Water falls as rain

The clouds get heavy and water falls back to the earth in the form of rain or snow.

### d. Water returns to the sea

Rain water runs over the land and collects in lakes or rivers, which take it back to the sea. The cycle starts all over again.

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