

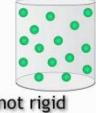
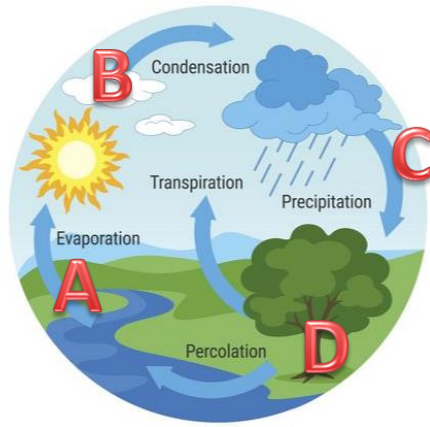
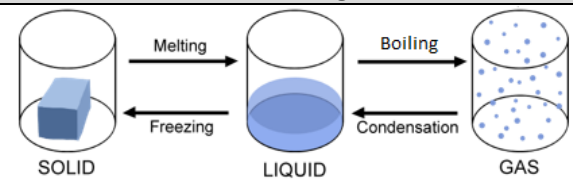




Materials			
Key Knowledge			
States of matter		The Water Cycle	
<p>There are three distinct physical forms that matter can take in most environments.</p>		<ul style="list-style-type: none"> • Solids • Liquids • Gases 	
Properties			
<p>All substances have properties that we can use to identify them</p>			
<p>Solids</p>  <ul style="list-style-type: none"> ● rigid ● fixed shape ● fixed volume 	<p>Solids stay in one place and can be held. Solids keep their shape. They do not flow like liquids. Solids always take up the same amount of space. They do not spread out like gases. Solids can be cut or shaped. Even though they can be poured, sugar, salt and flour are all solids. Each particle of salt, for example, keeps the same shape and volume</p>		
<p>Liquids</p>  <ul style="list-style-type: none"> ● not rigid ● no fixed shape ● fixed volume 	<p>Liquids can flow or be poured easily. They are not easy to hold. Liquids change their shape depending on the container they are in. Even when liquids change their shape, they always take up the same amount of space. Their volume stays the same.</p>		
<p>Gases</p>  <ul style="list-style-type: none"> ● not rigid ● no fixed shape ● no fixed volume 	<p>Gases are often invisible. Gases do not have a fixed shape. They spread out and change their shape and volume to fill up whatever container they are in. Gases can be squashed.</p>		
			
		<p>Water on the earth is constantly moving. It is recycled over and over again. This recycling process is called the water cycle.</p>	
		A	<p>Water evaporates into the air The sun heats up water on land, and in rivers, lakes and seas and turns it into water vapour. This water vapour rises into the air.</p>
		B	<p>Water vapour condenses into clouds Water vapour in the air cools down and changes back into tiny drops of liquid water forming clouds.</p>
		C	<p>Water falls as rain The clouds get heavy and water falls back to the earth in the form of rain or snow.</p>
		D	<p>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 then starts all over again.</p>
Changes of state			
<p>What does changes of state mean?</p>		<p>When a material changes from one material type to another, we say 'it has changed state'.</p>	
What are the changes of state?		Key Vocabulary	
		<p>Evaporation</p> <p>Condensation</p> <p>Transpiration</p> <p>Freeze</p> <p>Volume</p> <p>Temperature</p> <p>Precipitation</p> <p>Celsius</p> <p>Boiling</p>	<p>The process by which water changes from a liquid to a gas or vapour.</p> <p>The opposite of evaporation. It takes place when water vapour in the air condenses from a gas, turning back into a liquid form</p> <p>The evaporation of water from plant leaves.</p> <p>When a liquid turns into ice or another solid as a result of extreme cold.</p> <p>The amount of space a 3D shape takes up</p> <p>The measure of warmth or coldness of an object</p> <p>Any type of water that forms in the Earth's atmosphere and then drops onto the surface of the Earth</p> <p>The common scale in the UK for measuring temperature</p> <p>To become so hot that water bubbles and then turns into a gas (100°C)</p>
At what temperature does each happen?			
<p>Boiling</p>	<p>Water boils at exactly 100°C</p>		
<p>Melting</p>	<p>Different solids melt at different temperatures.</p> <ul style="list-style-type: none"> - Ice melts at 0°C - Chocolate melts at about 35°C 		
<p>Evaporation and condensation</p>	<p>Water can evaporate and condense at any temperature. The warmer it is, the faster the evaporation takes place.</p>		
<p>Freezing</p>	<p>Water freezes at 0°C</p>		
Working scientifically			
<p>How can we identify solids, liquids and gases? Can matter change state? Do gases weigh anything? What is the relationship between temperature and evaporation?</p>			