
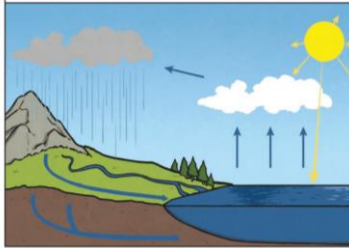
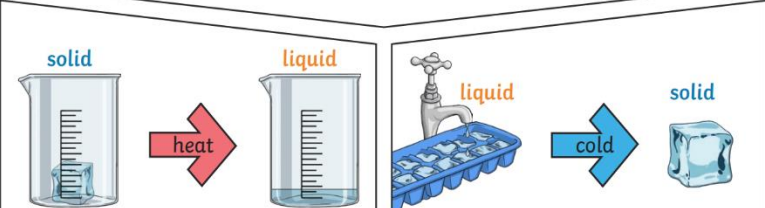




Leamington Primary Science Knowledge Organiser Year 4 – States of Matter –

Changing States Strand – Materials



What I should already know	What I will learn	Important words to help me. (vocabulary)	Ideas for Scientific Enquiry																													
<ul style="list-style-type: none"> the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	<p>There are three states of matter.</p> <table border="1" data-bbox="353 467 1115 638"> <tr> <th data-bbox="353 467 607 512">Solid</th> <th data-bbox="607 467 860 512">Liquid</th> <th data-bbox="860 467 1115 512">Gas</th> </tr> <tr> <td data-bbox="353 512 607 638"></td> <td data-bbox="607 512 860 638"></td> <td data-bbox="860 512 1115 638"></td> </tr> </table> <table border="1" data-bbox="353 638 1115 746"> <tr> <td data-bbox="353 638 607 746">Particles in a solid are close together and cannot move. They can only vibrate.</td> <td data-bbox="607 638 860 746">Particles in a liquid are close together but can move around each other easily.</td> <td data-bbox="860 638 1115 746">Particles in a gas are spread out and can move around very quickly in all directions.</td> </tr> </table> <p>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.</p>	Solid	Liquid	Gas				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.	<table border="1"> <tr> <td data-bbox="1167 419 1339 544">States of matter</td> <td data-bbox="1346 419 1827 544">Materials can be one of three states: solids, liquids, or gases. Some materials can change from one state to another and back again.</td> </tr> <tr> <td data-bbox="1167 544 1339 699">Solids</td> <td data-bbox="1346 544 1827 699">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 space no matter what has happened to them.</td> </tr> <tr> <td data-bbox="1167 699 1339 823">Liquids</td> <td data-bbox="1346 699 1827 823">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.</td> </tr> <tr> <td data-bbox="1167 823 1339 948">Gases</td> <td data-bbox="1346 823 1827 948">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 mass.</td> </tr> <tr> <td data-bbox="1167 948 1339 1042">Water vapour</td> <td data-bbox="1346 948 1827 1042">This is water that takes the form of a gas. When water is boiled, it evaporates into water vapour.</td> </tr> <tr> <td data-bbox="1167 1042 1339 1098">Melt</td> <td data-bbox="1346 1042 1827 1098">This is when a solid turns into a liquid.</td> </tr> <tr> <td data-bbox="1167 1098 1339 1153">Freeze</td> <td data-bbox="1346 1098 1827 1153">Liquid turns to a solid during the freezing process.</td> </tr> <tr> <td data-bbox="1167 1153 1339 1209">Evaporate</td> <td data-bbox="1346 1153 1827 1209">Turn a liquid into a gas.</td> </tr> <tr> <td data-bbox="1167 1209 1339 1265">Condense</td> <td data-bbox="1346 1209 1827 1265">Turn a gas into a liquid.</td> </tr> <tr> <td data-bbox="1167 1265 1339 1337">Precipitation</td> <td data-bbox="1346 1265 1827 1337">Liquid or solid particles that fall from a cloud as rain, hail, sleet or snow.</td> </tr> </table>	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 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 mass.	Water vapour	This is water that takes the form of a gas. When water is boiled, it evaporates into water vapour.	Melt	This is when a solid turns into 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.	Precipitation	Liquid or solid particles that fall from a cloud as rain, hail, sleet or snow.	<p>Ingredients: plastic water bottle water balloon Alka-Seltzer tablets</p> <p>Fill the water bottle a little more than half way with water. Add 1-2 Alka-Seltzer tablets to the water and quickly cover the top of the bottle with the balloon. The trapped gas from the carbon dioxide bubbles will cause the balloon to inflate!</p>  
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<p>Interesting Facts</p>	 <p>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 around each other.</p> <p>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.</p>																															
<ul style="list-style-type: none"> Gases are often invisible and assume the shape and volume of their container. The air we breathe is made up of different gases, but it is mostly nitrogen and oxygen. We can see through some solids like glass 																																