

Inskip St Peter's C.E. Primary School Knowledge Organiser

Subject: Science Autumn Term 2021		Years: Year 5/6		Area: Properties and Changes of Materials	
What should I already know?	What skills will I learn?	Vocabulary			
<ul style="list-style-type: none"> <li>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</li> <li>Compare and group materials together, according to whether they are solids, liquids or gases.</li> <li>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</li> <li>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul>	<ul style="list-style-type: none"> <li>To compare materials on the basis of their properties, including their hardness, transparency and response to magnets.</li> <li>Be able to explain the uses of different materials based on their properties.</li> <li>To give reasons, based on evidence from fair tests, for the particular uses of everyday materials by investigating thermal conductors and insulators for a packed lunch box.</li> <li>To give reasons, based on evidence from fair tests, for the particular uses of everyday materials by investigating the best electrical conductors to make a brighter bulb.</li> <li>To know that some materials will dissolve in liquid to form a solution and compare materials on the basis of their solubility through investigation of a range of materials to dissolve.</li> </ul>	<b>Materials</b>	The substance that something is made out of.		
		<b>Melting</b>	The process of heating a solid until it changes to a liquid.		
		<b>Freezing</b>	When a liquid cools and turns to a solid.		
		<b>Evaporating</b>	When a liquid turns into a gas or vapour		
		<b>Condensing</b>	When a gas cools and turns into a liquid		
		<b>Conductor</b>	A material that heat or electricity can easily travel through.		
		<b>Insulator</b>	A material that does not let heat or electricity travel through.		
		<b>Dissolving</b>	When solid particles are mixed with liquid particles.		
		<b>Sieving</b>	Smaller materials are able to fall through the holes in a sieve separating them from larger particles.		
		<b>Filtering</b>	The solid particles will get caught in the filter paper but the liquid will get through.		
		<b>Transparency</b>	The amount of light an object lets through.		
<b>Resources</b>					
Twinkl lesson plans STEM lesson plans Range of materials (see each individual lesson) Goggles Trays Beakers and measuring jugs Magnets Batteries    Bulbs    Wires/Crocodile Clips					

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	<ul style="list-style-type: none"><li>• To demonstrate that dissolving, mixing and changes of state are reversible changes by separating different materials. Use sieving, filtering and evaporating to make dirty water clean.</li><li>• To identify an irreversible chemical change through mixing materials/baking/cooking.</li></ul>	
<p style="text-align: center;"><b>By the end of KS2</b></p>		
	<p>The children will -</p> <ul style="list-style-type: none"><li>• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</li><li>• know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li><li>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li><li>• give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</li><li>• demonstrate that dissolving, mixing and changes of state are reversible changes</li><li>• explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</li></ul>	