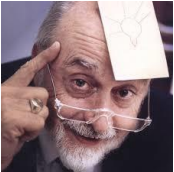
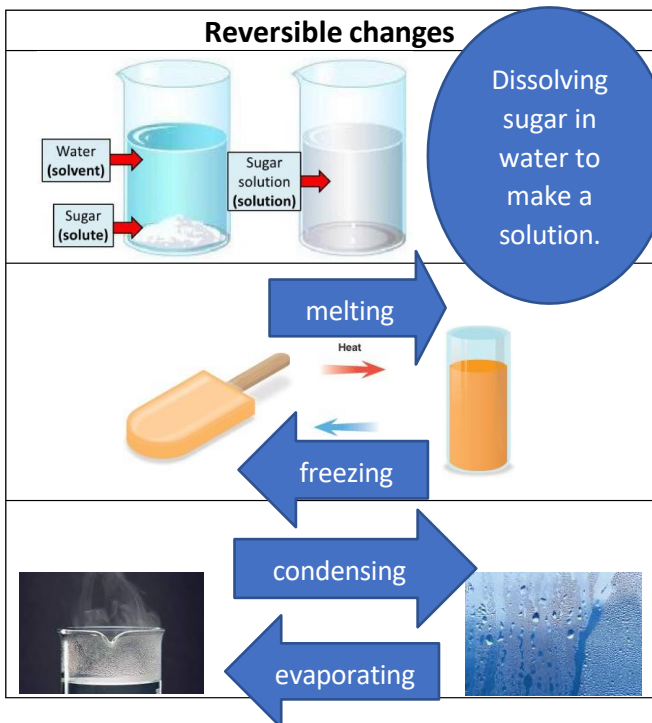





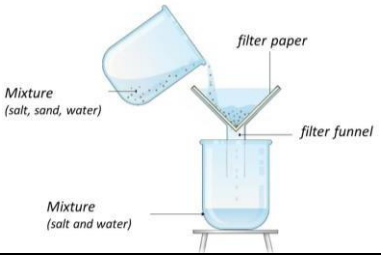

# Properties and changes of materials – Year 5



Key vocabulary	
<b>thermal insulator</b>	Does not allow heat to pass through it easily.
<b>thermal conductor</b>	Allows heat to pass through it easily.
<b>electrical insulator</b>	Does not allow electricity to pass through it.
<b>electrical conductor</b>	Allows electricity to pass through it.
<b>dissolve</b>	A solid that completely mixes in with a liquid and cannot be seen.
<b>solution</b>	A mixture of a liquid with a dissolved solid or gas.
<b>soluble</b>	Solids and gases that dissolve in liquids.
<b>insoluble</b>	Solids that do not dissolve in a liquid.
<b>sieve</b>	Separates solids of different sizes.
<b>filter</b>	Separates an insoluble solid that is mixed in a liquid.
<b>evaporation</b>	Separates a soluble solid and a liquid.
<b>reversible change</b>	Changes that can be switched back and are not permanent. E.g. dissolving, melting, freezing
<b>non-reversible change</b>	Changes that can not be reversed back to their original state. E.g. burning, rusting

Significant scientists	
<p><b>Spencer Silver</b> (born 1941)</p> 	<p>Spencer Silver is an American scientist who together with Arthur Fry was the inventor of Post-it notes in 1974. At the time, he was working to develop new classes of adhesives.</p>
<p><b>Joe Keddie</b></p> <p>Joe Keddie is a professor of Soft Matter Physics at the University of Surrey. He is interested in the fundamental processes of soft matter, especially polymer thin films and nanoparticles.</p>	



Materials can be grouped together based on their properties. For example:
<ul style="list-style-type: none"> <li>• hardness</li> <li>• solubility</li> <li>• transparency</li> <li>• thermal conductivity</li> <li>• electrical conductivity</li> <li>• response to magnets</li> </ul>

Separating materials	
<p><b>Sieving</b></p> <p>separates the stones and twigs from the soil.</p>	
<p><b>Filtering</b></p> <p>separates the sand from the mixture.</p>	
<p><b>Evaporating</b></p> <p>separates the dissolved salt from the water.</p>	

Non-reversible changes - these result in the formation of new materials	
<p><b>Burning</b></p>	
<p><b>Mixing vinegar and bicarbonate of soda</b></p>	
<p><b>Rusting</b></p>	