

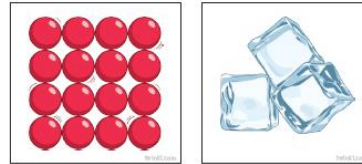
## Science Knowledge Organiser – Materials and their properties - Year 5 Term 4

### How can materials be separated and changed?

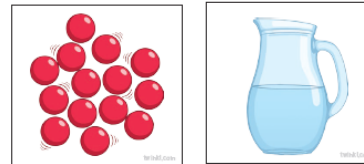
How can materials be separated in different ways? How can materials be separated and joined? How can materials can changed and which changes can be reversed? How do different products achieve their purpose by changing?

<b>Key Vocabulary</b>	
<b>Property</b>	A feature of a material (e.g., hard, stretchy, transparent).
<b>Solids</b>	Solid particles are very close together, meaning solids hold their shape.
<b>Liquids</b>	Particles can flow and take the shape of the container because the particles are more loose than solids and can move around.
<b>Gases</b>	The particles are further apart and free to move around.
<b>Dissolve</b>	When a solid mixes into a liquid so it seems to disappear. A solid which dissolves is <b>soluble</b> .
<b>Soluble</b>	Able to be dissolved in water
<b>Solution</b>	A mixture where a solid has dissolved in a liquid.
<b>Melt</b>	The process of heating a solid until it changes into a liquid.
<b>Freeze</b>	When a liquid cools and turns into a solid.
<b>Condense</b>	When a gas cools and turns into a liquid.
<b>Mixture</b>	Two or more substances together but not chemically joined.
<b>Filter</b>	Separate solid pieces from a liquid.
<b>Evaporate</b>	When a liquid turns into a gas or vapour.
<b>Sieve</b>	A way of separating materials by allowing smaller particles to fall through a sieve.

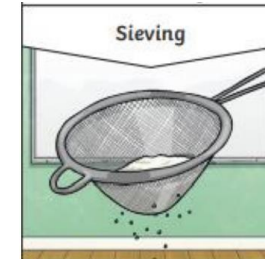
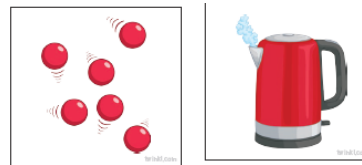
**Solid:** particles are packed tightly, they cannot move freely



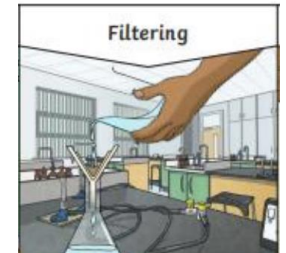
**Liquid:** particles can move



**Gas:** particles can move freely around one another



Smaller **materials** are able to fall through the holes in the sieve, separating them from larger particles.



The **solid** particles will get caught in the filter paper but the **liquid** will be able to get through.



The **liquid** changes into a **gas**, leaving the **solid** particles behind.

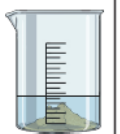
#### Dissolving

A solution is made when **solid** particles are mixed with **liquid** particles. **Materials** that will dissolve are known as soluble. **Materials** that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.

Sugar is a soluble **material**.



Sand is an insoluble **material**.



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