

Key vocabulary

Solid	Relatively rigid, definite volume and shape. The atoms and molecules are attached to each other.
Liquid	Definite volume but able to change shape by flowing. In a liquid, the atoms and molecules are loosely bonded.
Gas	No definite volume or shape.
States of matter	Solids, liquids and gases are called the three states of matter.
Change of state	The change of a substance from one physical form to another.
Melt	Make or become liquefied by heat.
Freeze	Liquid turning into a solid.
Evaporate	Turn from liquid into vapour.
Mixture	A substance made by mixing other substances together.
Separation	Mixtures can be separated by methods like sieving, filtering and evaporating.
Dissolve	Substances that dissolve in water are called soluble substances .
Irreversible change	When materials cannot be changed back to how they were before.
Reversible change	When materials can be changed back to how they were before the reaction took place.
Thermal conductor	Heat passes through some materials.
Thermal insulator	Heat does not pass through some materials.

Etwall Primary School

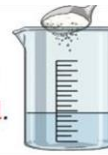
Properties and Changes of Materials

Year 5/6

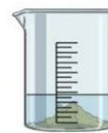
What is dissolving?

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.



What is a reversible change?

Reversible changes, such as mixing and dissolving **solids** and **liquids** together, can be reversed by:

Sieving	Filtering	Evaporating
		
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.

What is an irreversible change?



Important Scientists

Antoine Lavoisier (1743 - 1794) He is often called the "*Father of Modern Chemistry*". He was the first scientist to recognise and name the elements hydrogen and oxygen.

Dmitri Mendeleev (1834 - 1907) He was Russian chemist who created the periodic table of elements.

Sir Humphry Davy (1778 - 1829) He was best known for using electrolysis to isolate and discover many elements. He also invented a safety lamp for miners called the Davy lamp.

John Dalton (1766 - 1844) He was an English chemist who helped to develop the atomic theory about atoms and elements. He is also known for his work researching color blindness.

Marie Curie (1867-1934) She was a Polish chemist who coined the term radioactivity. She was the first woman to win the Nobel Prize and won the award twice, once for physics in 1903 and again for chemistry in 1911.

Different materials are used for particular jobs based on their properties: electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity, transparency.

