

What should I already know?

- A material is the substance that something is made out of, e.g. wood, plastic, metal.
- There are 3 different states of matter. Solid, liquid and a gas.
- Evaporation is the change that happens when a liquid turns into a gas.
- Magnets create a force called magnetism. This magnetic force attracts other magnetic materials such as iron, nickel and cobalt.
- I know that an electrical circuit is a complete pathway that an electrical current can flow around.

Key knowledge

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**.

Sugar is a **soluble** material.

Sand is an **insoluble** material.

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

Sieving



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

Filtering



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

Evaporation



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

Magnetic separation



The magnet will pick magnetic materials out of non-magnetic materials.

Irreversible changes often result in a new product being made from the old materials (**reactants**).

EG Mixing bicarbonate of soda and vinegar creates carbon dioxide. Mixing vinegar and milk produces casein plastic and burning wood produces ash.

Key Vocabulary

Mixture	A combination of materials that can be easily separated.
Separating	Dividing mixtures into their original materials.
Dissolve	When a solid completely mixes with a liquid.
Solution	A solution is a mixture made when a solid dissolves into a liquid.
Transparency	A transparent object lets light through so the object can be looked through. EG glass or some plastics.
Reaction	A chemical change that forms new substances.
Reversible change	A change in state which can be undone.
Irreversible change	Is a Permanent change in state and forms new materials from the original ones.
Insulator	An insulator is a material that does not let heat or electricity travel through them. EG Wood, plastic
Conductor	A conductor is a material that heat or electricity can easily travel through. Most metals are both thermal and electrical conductors.