

Year 5 Properties and Changes of Materials

Key Vocabulary

Evaporating	When a liquid turns into a gas or vapour.
Sieving	Used to separate particles of different sizes eg sand from stones.
Filtering	Remove solids from liquids or gases by filtering. Water can be filtered to remove impurities.
Reversible	A reversible change is a change that can be undone or reversed. A reversible change might change how a material looks or feels, but it doesn't create new materials. Examples of reversible reactions include dissolving, evaporation, melting and freezing
Irreversible	An irreversible change is when it cannot be changed back to its original form or substance, creating new material.
Conductor	A conductor is a material that heat or electricity can easily travel through. Most materials are both thermal conductors (they conduct heat) and electrical conductors (they conduct electricity).
Insulator	An insulator is a material that does not let heat or electricity travel through it. Wood and plastic are both thermal and electrical insulators.
Transparency	A transparent object lets light through so the object can be looked through, for example glass or some plastics.

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

For example, glass is used for windows because it is hard and transparent. Oven gloves are made from a thermal insulator to keep the heat from burning your hand.

Materials can be separated by sieving, filtering and evaporating.

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



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



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

Separating Mixtures: **Evaporation**



Reversible changes, such as mixing and dissolving solids and liquids together, can be reversed by sieving, filtering or evaporating.

Dissolving

A solution is made when solid particles (eg salt) are mixed with liquid particles (eg water). Materials such as salt or sugar that will dissolve are known as soluble. Materials such as sand which won't dissolve are known as insoluble.

Irreversible Changes

Irreversible changes often result in a new product being made from the old materials. This type of change is not usually reversible and includes changes associated with burning. Example: burning wood produces ash.

