

Key Vocabulary

Materials: The substance is something made out of, e.g. wood, metal, plastic.

Melting: The process of heating a **solid** until it changes into a **liquid**.

Freezing: When a **liquid** cools and turns into a **solid**.

Evaporating: When a **liquid** turns into a **gas** or a vapour.

Condensing: When a **gas**, such as water, changes into a **liquid**.

Conductor: A material that heat or electricity can easily travel through (many metals are conductors of heat and electricity).

Insulator: A material that does not let heat or electricity travel through them (wood / plastic).



Unlock more knowledge by reading and / or visiting:

Class books: Materials and Technology (Kingfisher Science)

Library of Science Materials (Usborne)

Website(s): <https://www.dkfindout.com/uk/science/materials/>

<https://www.bbc.co.uk/bitesize/topics/zryycdm>

<https://classroom.thenational.academy/units/separating-mixtures-9713>

Key Knowledge

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

Key Knowledge

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 larger particles.

Filtering



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

Evaporating



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**.



Irreversible changes often result in a new product being made from the old **materials** (reactants). For example, burning wood produces ash. Mixing vinegar and milk produces casein plastic.

