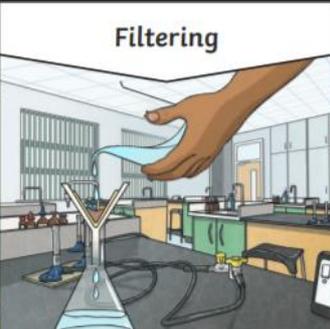


# Materials

## Key knowledge

- Different **materials** are used for particular jobs, based on their properties. Properties such as: electrical **conductivity**, **flexibility**, **hardness**, **insulators**, **magnetism**, **solubility**, **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
- Reversible** changes, such as mixing and dissolving solids and liquids together can be reversed by:

Sieving	Filtering	Evaporating
		
Smaller <b>materials</b> are able to fall through the holes in the sieve, separating them from larger particles.	The <b>solid</b> particles will get caught in the filter paper but the <b>liquid</b> will be able to get through.	The <b>liquid</b> changes into a <b>gas</b> , leaving the <b>solid</b> particles behind.

## Key Vocabulary

- Conductor** - A material or device which allows heat or electricity to carry through
- Dissolve** - When something solid mixes with a liquid and becomes part of the liquid
- Evaporation** - The process of turning from liquid to vapour
- Flexible** - Capable of bending easily without breaking
- Gas** - An air-like substance which expands freely to fill any space available
- Insulator** - A substance which does not readily allow the passage of heat or sound
- Irreversible** - Cannot be reversed back to its original state
- Liquid** - A substance that flows freely but can be measured by volume e.g. water or oil
- Magnetic** - Capable of being magnetised or attracted by a magnet
- Material** - The matter from which a thing is or can be made
- Opaque** - Not able to be seen through, not transparent
- Reversible** - Able to be reversed back to its original state
- Solid** - Firm and stable in shape, not a liquid or fluid
- Soluble** - Able to be dissolved, especially in water
- Thermal** - Relating to heat
- Transparent** - Allows light to pass through so that objects behind can be seen

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

## Dissolving

Dissolving A solution is made when <b>solid</b> particles are mixed with <b>liquid</b> particles. <b>Materials</b> that will dissolve are known as soluble. <b>Materials</b> that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.	Sugar is a soluble <b>material</b> . 
	Sand is an insoluble <b>material</b> . 

## Changes of State

<b>solid</b> 	The <b>solid</b> melts.		<b>liquid</b>
	The <b>liquid</b> freezes.		<b>gas</b>
<b>liquid</b>	The <b>gas</b> condenses.		<b>gas</b>
<b>solid</b> particles 	The <b>liquid</b> evaporates.		<b>gas</b> particles