



Year 5 Autumn - How can you separate and change materials?

Key Vocabulary

Thermal insulator	A material which does not allow heat to easily pass through it.
Thermal conductor	A material which does allow heat to pass through it.
Change of state	A physical change in matter. E.g. solid changing to a liquid.
Dissolve	When a solid (solute) is mixed into a liquid (solvent) creating a solution.
Solution	Created by dissolving materials in a liquid.
Soluble	Describes a substance that dissolves in water.
Insoluble	Describes a substance that does not dissolve in water.
Reversible change	When materials can be changed back to how they were before the reaction took place.
Irreversible change	When materials cannot be changed back to how they were before the reaction took place. A new material is created.

DISSOLVING - Sometimes when a solid (solute) is mixed with a liquid (solvent) it will dissolve to form a solution e.g. dissolving sugar in hot tea. The solid seems to disappear in the solution but it is still there it has just become part of the liquid. A soluble material can dissolve however an insoluble material cannot dissolve.



SEPARATING MIXTURES

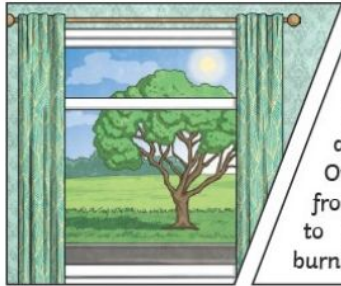
SIEVING - a mixture of different sized solid particles can be separated with a sieve.

FILTERING - an insoluble solid can be separated from a liquid when passed through a filter. The liquid passes through the solid particles are trapped on the filter.

EVAPORATING - if a solution is boiled (heated) the water will evaporate into gas and the solid will be left behind.



Different materials are used for particular jobs based on their properties: electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, 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 grouped based on their properties using more complex vocabulary.

Magnetic



Soluble



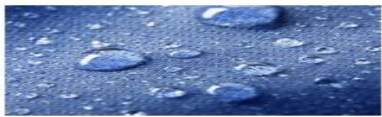
Insoluble



Transparent



Impermeable



Permeable



Flexible

