



UKS2 Science Knowledge and Skills Organiser

Furnaces of Fire

Key Knowledge and Skills

Comparing and Grouping Materials

- Different materials are used for particular purposes based on their properties, including: hardness, solubility, transparency electrical conductivity, thermal conductivity, magnetism.
- For example, glass is used for windows because it is hard and transparent (allows light to pass through).



Separating Mixtures

- 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.



Sieving



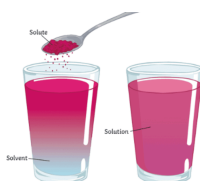
Filtering



Evaporating

Dissolving Materials

- A solution is made when solid particles are mixed with liquid particles.
- Materials that will dissolve are known as soluble.
For example, sugar is a soluble material.
- Materials that won't dissolve are known as insoluble.
For example, sand is an insoluble material.



Reversible and Irreversible Changes

- Some materials can be separated after they have been mixed based on their properties - this is called a reversible change.
- Some mixtures cannot be separated back into their original components - this is called an irreversible change. Irreversible changes often result in a new product being made. For example, burning wood produces ash.



Skills

- Plan different types of scientific enquiries to answer questions, Including recognising and controlling variables.
- Record data and results of increasing complexity using scientific diagrams and labels, tables, bar and line graphs.

Key Vocabulary

Word	Definition
condensation	the process of water vapour turning back into liquid water.
conductor	a substance or device that allows heat or electricity to pass through.
dissolving	when a substance breaks up and is absorbed by something or disappears.
evaporation	the process by which water changes from a liquid to a gas or vapour.
filtering	The process in which solid particles in a liquid or gaseous fluid are removed by the use of a filter.
insoluble	a substance that will not dissolve in a solvent even after mixing.
insulator	any material that keeps energy such as heat or electricity from easily passing through.
irreversible changes	a change that cannot be changed back again. Burning or mixing a liquid with bicarbonate of soda are examples of irreversible changes.
magnetism	an object that has a magnetic field. A magnet attracts or repels other items.
particles	a small quantity or fragment.
sieving	a simple technique for separating particles of different sizes.
soluble	a substance capable of being dissolved.
solution	a mixture that contains two or more substances combined evenly.
solvent	a liquid in which substances are dissolved.
thermal	Relating to or caused by heat or by changes in temperature.
transparent	an object which allows light to pass through it so that objects behind it can be easily seen (glass).