Year Five
Properties and Changes of Materials

Autumn 1

Glossary

Condensing – when a gas cools and turns into a liquid
Conductivity – how easily heat or electricity can pass through an object
Dissolve – become part of a liquid to form a solution
Evaporation – the process of turning a liquid into a gas
Filtering – a method of separating liquid from solid
Freezing – when a liquid cools and turns into a solid
Irreversible – a process that cannot be reversed into its previous state e.g. bread to toast
Melting – the process of heating a solid until it changes into a liquid
Properties – the characteristics of a material
Solution – a liquid mixture
Reversible – a process that can be reversed into a previous state e.g.ice to water to ice
Solubility – the ability to dissolve
Transparency – how 'see 'through' an object is

Rusting is a chemical reaction between iron, oxygen, and water.

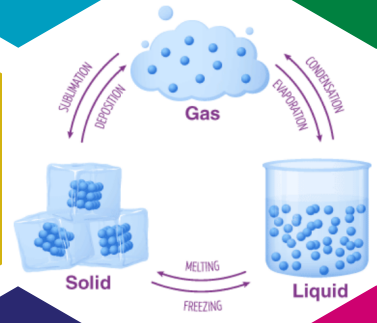
Mixing bicarbonate of soda and vinegar causes a chemical reaction and creates carbon dioxide as a result.

Different materials are used for particular jobs based on their properties.

Properties include electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity or transparency.

Glass is used for light bulbs because it is hard and transparent. Fabric is used for jumpers because it is soft and warm.

Burning, rusting, and cooking are **PERMANENT** changes. They ***cannot*** be undone by reversing the conditions that brought them about.

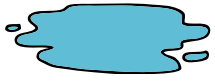


Some materials can **CHANGE** state.

Changes of State

The solid melts. The liquid evaporates.

The liquid freezes.

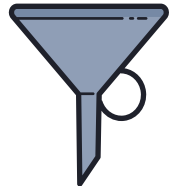


The gas condenses.

CASEIN PLASTIC

Irreversible changes often result in a **NEW** product being made from old materials - *reactants.*

Reversible changes, such as **MIXING** & **DISSOLVING** solids and liquids together, can be reversed by sieving, filtering or evaporating.



FILTER

Solid particles will get trapped in the filter paper, but the liquid will get through.

American Scientist Spencer Silver developed the glue for 'sticky notes' which can be repeatedly attached and peeled away from a surface.

Ruth Benerito was an American chemist. She is best known for developing wrinkle-free cotton fabric.

Smaller materials fall through holes in a ***sieve,*** separating them from larger particles.

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