

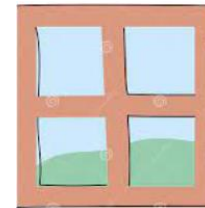
Materials and their Properties

KNOWLEDGE ORGANISER

ESSENTIAL MATERIALS VOCABULARY

Soluble	Is able to be dissolved, especially in water.
Insoluble	Something which will not dissolve.
Evaporate	The process of turning from liquid to vapour
Dissolve	The process when a substance appears to have disappeared in a liquid to make a solution.
Solution	A solution is a specific type of mixture where one substance is dissolved into another.
Particles	Scientists believe that everything in the universe is made up of particles. Particles can differ in size.
Reversible	A change that can be undone or reversed. Meaning you can get back the materials you started with.
Irreversible	A change that cannot be changed back again. In an irreversible change, new materials are always formed.
Chemical	A substance that has specific properties or characteristics we can use to identify it.
Reaction	A process where one or more chemicals are converted into different chemicals.

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



Dissolving

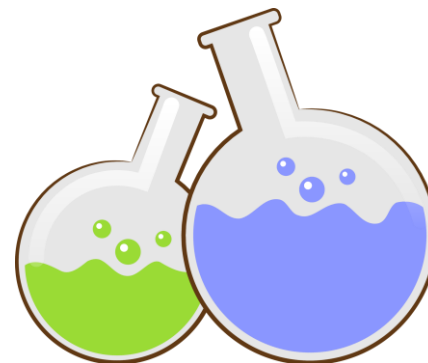
Some substances dissolve when they are mixed with water. It might look like they have disappeared, but it has actually mixed with the water to form a solution. These substances are called soluble substances. Substances like sugar and salt dissolve in water to make transparent solutions. Substances that do not dissolve in water are called insoluble substances. Substances like sand or flour do not dissolve in water.

Irreversible Changes

Irreversible changes often result in a new product being made from the old materials. For example, once wood is burnt, it becomes ash and cannot be reversed back to its original state.

Reversible Changes

Reversible changes such as mixing and dissolving solids and liquids together can be reversed by sieving, filtering and evaporating.



Solid	Liquid	Gas
Particles are very close together. They can vibrate, but not move.	Particles are close together but can move around easily.	Particles are spread out. They can move around freely and quickly.