Key vocabulary

 $\underline{Conductor}\mbox{-}$ a material which allows heat or electricity through

<u>Dissolve</u>-when something solid mixes with a liquid and becomes part of the liquid

<u>Evaporation</u>-The process of turning liquid into a gas.

<u>Filtering</u>-A method of separating liquids and solids using filter paper

Insoluble- does not dissolve in a liquid

<u>Insulator</u>-A material which does not allow heat, electricity or sound to pass through. it

<u>Irreversible</u>-Cannot be reversed back into its previous state. A new material is formed.

<u>Liquid</u>-A substance that flows freely like water or oil

Magnetic-attracted by a magnet

Properties-a characteristic of a material

<u>Reversible</u>-able to be reversed back to its original state

<u>Saturated</u>-when a substance cannot dissolve any more.

<u>Sieving</u>-the process of separating a solid from a liquid or separating different sized solids.

Solid-Firm and stable in shape.

Solubility-The ability to be dissolved

Solute-a material that is dissolved in a liquid.

<u>Solution</u>-A mixture where a solid has dissolved into a liquid.

Properties and Changes of Materials

What should I already know?

- Materials are the substances that things are made from.
- The properties of materials make them useful for different purposes.
- Materials have more than 1 property and can be natural or man-made. Properties can include the hardness, whether it conducts electricity, the shininess or whether it's magnetic.
- There are 3 main states of matter-solids, liquids and gases.
- The state of matter of materials can change through processes such as freezing and melt-ing.

What will I know by the end of the unit?

Materials can be sorted in a variety of ways based on their properties. These properties include: transparency, magnetism, solubility, flexibility, and whether they are a conductor or insulator of electricity and heat.



Grouping Materials by Properties		
PROPERTY	VES	NO
ELECTRICAL CONDUCTOR	Copper, aluminum, gold, silver, steel, sea water	Glass, air, plastic, rubber, wood, oil, diamond
MAGNETIC	Steel, nickel, cobalt, iron, uranium, platinum	Paper, glass, plastic, rubber, wood, wool
TRANSPARENT	Glass, water, clear plastic	Wood, rubber, oil, steel, copper, iron, silver
WATERPROOF	Plastic, rubber, metal, glass	Tissue, sponge, fabric



An insoluble solid can be separated from a liquid when passed through a filter. The liquid can pass through the filter whilst the solid parti-

Water

cles are left behind in the filter.

Solutions and Separation

A solution is a specific type of mixture where one substance is dissolved into another.



 A solvent is a substance that dissolves a solid, liquid, or gaseous solute.

can't return it back to a raw egg again.

-A solute is the substance dissolved in the solvent. When it dissolves, it looks as though it has disappeared, but in fact it has been broken down to become a part of the liquid.

 Changes that involve the formation of new materials (e.g. mixing cement) are not normally reversible.

 One example of a solution is salt water. You cannot see the salt, and the solution will remain if left alone.

-Some mixtures and solutions can be separated, e.g. through processes such as sieving, filtering & evaporating. Salt and water can be separated by evaporation.