

Knowledge Organiser		
Year: 5	Science	Term: Summer 1
		Topic: Properties and uses of materials

Vocabulary	Meaning
materials	The things that objects are made from
property	Something that can be measured
conductors	A material that allows heat (thermal conductor) or electricity (electrical conductor) to travel through easily.
insulators	A material that doesn't let heat or electricity travel through them easily (e.g. wood and plastic).
hardness	A measure of how much a material resists a change in shape
transparency	Allowing light to pass through so objects behind can be seen clearly.
magnetism	A force when electric charges attract or repel one another
electrical conductivity	The ability of a material to conduct electricity

A change is a process during which something becomes different. In science there are 2 types of change:

Irreversible

- CANNOT be changed back
- New things ARE made
- Permanent

Reversible

- Can be changed back
- New things are NOT made
- Temporary (e.g. changes of state – solids liquids and gases – think about the water cycle).

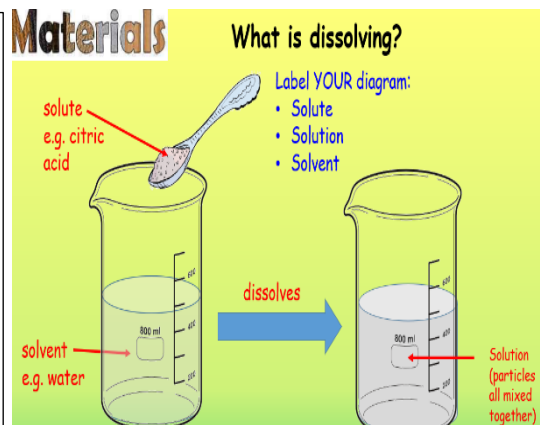
Things which dissolve in water/other liquids are called **soluble**.

Things which do not dissolve in water/ other liquids are called **insoluble**.

Dissolving means a substance becomes mixed with a liquid and seems to disappear.

A substance that has been dissolved in water, it can sometimes be reversed using heat or evaporation.

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



Insulator –

Any material that does not allow electric current to pass through it
•like the protective coating on wires

- plastic
- rubber
- glass



Conductor –

Any material that allows electric current to pass through it

- copper
- aluminum
- steel



Good insulators can prevent heat loss. Metal is a good **CONDUCTOR** of heat, plastic is a good **INSULATOR**.

Learning Objectives

Lesson 1	I know how to compare and group together everyday materials on the basis of their properties, including their hardness, transparency, electrical conductivity and response to magnets.		
Lesson 2	I know the reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. I understand the terms 'conductor' and 'insulator'.		
Lesson 3	I know mixing and changes of state are reversible changes.		
Lesson 4	I know some materials will dissolve in liquid to form a solution.		
Lesson 5	I know some materials will dissolve in liquid to form a solution.		
Lesson 6	I can show what I have learnt		