

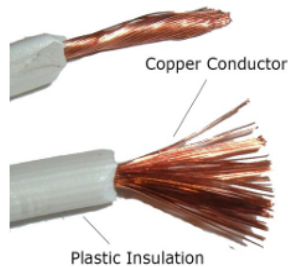
Properties and Changes of Materials Knowledge Organiser

By the end of this unit of work, pupils will be able to explain the difference between reversible and irreversible changes. They will be able to apply their prior learning and scientific skills to plan, prepare and conduct a number of investigations to determine the uses of everyday materials.

What are electrical insulators and conductors?

Electrical conductors allow electricity to pass through them easily while electrical insulators do not.

Electrical insulators have a high resistance which means that it is hard for electricity to pass through these objects.



What are thermal insulators and conductors?

Materials which are good thermal conductors allow heat to move through them easily.

Thermal conductors are used to make items that require heat to travel through them easily, such as a saucepan which requires heat to travel through to cook food.

Thermal insulators do not let heat travel through them easily.

Examples of thermal insulators include woollen clothes and flasks for hot drinks.



Materials can be grouped based on their properties using more complex vocabulary.

Magnetic



Transparent



Permeable



Soluble



Insoluble



Impermeable



Flexible



Irreversible Changes

Often result in a new product being made from the old material.

For example **burning wood produces ash**



Key Vocabulary

Irreversible	A change that can not be undone or reversed
Reversible	A change that can be undone or reversed
Conductor	Material that allows electricity to flow through it
Insulator	Material which does not allow heat or electricity to pass through it easily
Transparent	See through; light passes through it
Opaque	Not see-through; light can not pass through it
Hardness	The quality of being difficult to bend, cut, scratch etc.
Flexible	Capable of being flexed or bent without breaking

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