

Science Knowledge Organiser – What different properties do materials have and how can they be used?

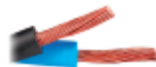
How are solids, liquids and gases different? How can different materials be grouped? Which materials conduct or insulate heat and electricity? What materials could I use to make my own object?

Key Knowledge

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

Key vocabulary

- **transparent** – an object or material that allows all light to pass through it
- **translucent** – an object or material that allows some light to pass through it
- **opaque** – an object or material that does not allow any light to pass through it
- **magnetism** – a non-contact force created by a magnet
- **hardness** – a measure of how resistant a solid is to a change of shape or indentation when a force is applied
- **electrical conductor** – a material that lets electricity pass through it
- **electrical insulator** – a material that does not let electricity pass through it



- **circuit** – a complete path that allows electrical energy to flow



- **cell** – a single device which produces electricity



- **bulb** – a part in a circuit that produces light



Working Scientifically

Variables

Determine the independent, dependent and control variables.

Independent

The variable that you change or select the values for.

Dependent

The variable that is measured for each change of the independent variable.

Control

The variables that must be kept constant to ensure a fair test.