



Y5 Science – Testing Materials

Grouping Materials

Materials can be compared to each other and grouped using the following properties:

Hardness	The ability of a material to resist being dented
Solubility	How easily a material will dissolve
Magnetism	If a material is magnetic or not
Conduction of Heat	How easily heat passes through the material
Conduction of Electricity	How easily electricity passes through the material
Transparency	If a material allows light to pass through or not allowing objects to be seen clearly.

Keeping Hot Drinks Hot

Which material is the best?



Metals can be used to keep hot drinks hot



Plastics can also be used to make insulated cups to keep drinks hot.



Paper or card is often used to make disposable insulated cups

Vocabulary

Conductor	A material that transmits heat or electricity.
Conductivity	The degree to which a material conducts heat or electricity.
Insulator	A material that does not allow heat or electricity to transmit easily.
Thermal	Involving heat.
Transparency	The property of allowing light to pass through a material so that objects can be seen clearly.
Variables	Something that can be changed in an investigation.

Electrical Conductors and Insulators



Conductors let electricity pass through them easily. **Metals** such as **copper**, **iron** and **steel** are good conductors. Metal is used in plugs to allow electricity to transfer from the wall socket into a device. In a light bulb, the metal filament conducts electricity and cause the bulb to light up.



Materials that do not allow electricity to pass through them are **insulators**. **Plastic**, **wood**, **glass** and **rubber** are good insulators. That is why they are used to cover materials that carry electricity. The plastic covering that surrounds wires stops you from getting an electrical shock.