

What should I already know?

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

Enquiry Question

Which material is the best insulator of heat?

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
Thermal insulator	material that does not let heat pass through it quickly/efficiently/easily

Materials have different properties that make them better for some jobs than others.

When objects are designed and made it is important to think carefully about the materials that are used. This is to make sure that the object is able to do its job. We use certain materials because of their properties. Plastic for instance is perfect for an umbrella or a raincoat as it is waterproof



A thermal insulator would keep this cup of tea hot for longer.



plastic 	wood 	metal
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Certain materials used in everyday items need to have electrical conductors and insulators.

The pins, which are inserted into a socket to connect to the mains electrical current, need to be conductors.



The casing needs to be an electrical insulator so the electrical current is blocked and does not harm the person plugging in the device.

Grouping Materials by Properties

Property	Yes	No
Electrical Conductor	Copper Aluminium Gold	Glass Plastic Diamond
Magnetic	Steel Nickel Iron	Paper Wood plastic
Transparent	Glass Water Plastic	Wood Steel Copper
Hardness	Ceramic Concrete Diamond	Wool Rubber Fabric

