



SCIENCE KNOWLEDGE ORGANISER



ESSENTIAL VOCABULARY

Materials	What objects are made from.
Suitability	Having properties which are right for a specific purpose.
Properties	What a material is like and how it behaves.
Squash	Pushing an object together by using your hands.
Bend	Grabbing an object at both ends and bring those ends towards each other.
Stretch	Pulling your hands apart and together slowly.
Twist	Turning your hands in opposite directions.
Plastic	Man made material.
Wood	Natural material that comes from trees.
Metal	Type of strong man made material.

KEY QUESTIONS

What has this object been made from?

Why is this material suitable?

What can we use wood , metal , glass for?

Why would this not be a good material to use?

Stem Sentences

This is manmade because

This is made by humans because

The property of this material is

Key Knowledge

John McAdam	John McAdam was a Scottish engineer who experimented with using new materials to build roads, inventing a new process called ' macadamisation '.
John Dunlop	John Dunlop was a Scottish inventor who invented the air-filled rubber tyre. It was originally invented in 1887 to use with bicycles, and then became very useful when automobiles were developed.
Charles Macintosh	Charles Macintosh was a Scottish inventor and chemist who invented waterproof fabrics in 1818. The Mackintosh raincoat was introduced in 1824.
Macadamisation	Macadamisation was the name given to John McAdam's construction process of building roads. The name tarmac means a road made like this using tar.

LINKS TO PREVIOUS LEARNING

- Distinguish between an object and the material from which it is made. (Y1 - Everyday materials)
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials)
- Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials)
- Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)

Properties of Materials



wood:
hard, stiff, strong, opaque, can be carved into any shape.



glass:
waterproof, transparent, hard, smooth.



plastic:
waterproof, strong, can be made to be flexible or stiff, smooth or rough.



metal:
strong, hard, easy to wash.



paper:
lightweight, flexible.



cardboard:
strong, light, stiff.



fabric:
soft, flexible, hard-wearing, can be stretchy, warm, absorbent.



rubber:
hard-wearing, elastic, flexible, strong.