



What should I know already?

- The name of different materials.
- Objects and the materials they are made from.
- Some properties of materials.

Things I need to know

- Materials** are what objects are made from.
- Suitability** means having properties which are right for a specific purpose.
- Properties** explain what a material is like and how it behaves (soft, stretchy, waterproof).

John McAdams was a Scottish engineer who experimented with using new materials to build roads. This process was called macadamisation.

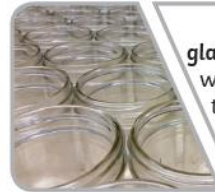
John Dunlop was a Scottish inventor who invented the air-filled rubber tyre. It was originally invented in 1887 to use with bicycles and then became useful when cars were developed.

Charles Macintosh was a Scottish inventor and chemist who invented waterproof fabrics in 1818. The Mackintosh raincoat was introduced in 1824.

Diagrams



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



glass:
waterproof, transparent, hard, smooth.



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



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



metal:
strong, hard, easy to wash.



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



paper:
lightweight, flexible.



cardboard:
strong, light, stiff.

Squash an object by pushing both hands together.



Bend an object by grabbing both ends of the object and bringing the ends inwards together.



Twist an object by turning your hands in opposite directions.



Stretch an object by pulling your hands slowly and gently apart.



Vocabulary

- Absorbent** – soaks up liquid.
- Brittle** – hard but can break easily.
- Bumpy** – uneven or raised patches on an object.
- Dull** – not bright.
- Elastic** – able to go back to shape once stretched.
- Flexible** – able to bend.
- Hard** – not easily broken.
- Opaque** – cannot be seen through.
- Rigid** – can't be bent.
- Rough** – uneven surface.
- Smooth** – when the surface of an object is even.
- Soft** – not hard or solid.
- Squashy** – easily crushed or squeezed.
- Translucent** – lets some light through but can't be seen clearly.
- Transparent** – can be seen through.
- Waterproof** – keeps water out.