

Key Vocabulary

materials	Materials are what objects are made from.
suitability	Suitability means having the properties which are right for a specific purpose.
properties	This is what a material is like and how it behaves (soft, stretchy, waterproof).

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.

Key People

People who developed new **materials**:

John McAdam's process was so successful that roads were built in this way right across the world.



John Dunlop originally used rubber to make tyres for his son's tricycle.



Charles Macintosh invented the first waterproof fabric by painting a dissolved rubber solution onto cloth.



Types of materials

plastic wood metal
fabric rubber stone
glass leather

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.



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.