

Materials

Significant Scientists

John Dunlop



A Scottish inventor (1840 - 1921) who used rubber to invent the air-filled tyre for a bicycle. It was later developed for cars.

Stephanie Kwolek



Stephanie Kwolek was a scientist from America who invented Kevlar, a very strong material. It's used in bulletproof vests, helmets, and other safety gear. Her work helps us understand how materials can be changed and used to keep people safe.

Key Knowledge

Materials are what objects are made from.

Some materials have certain properties which are right for a specific purpose. This is why they are used to make this object.

A materials property is what it is like and how it behaves e.g. soft, stretchy and waterproof.

To learn about a materials properties we **squash, bend, twist and stretch** it.



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.

Key Vocabulary

property	A characteristic of something.
waterproof	Keeps out water.
absorbent	Able to soak up liquid easily.
squash	Crush or squeeze (something) with force so that it becomes flat, soft, or out of shape.
bend	To bend a material is a way of physically changing its shape.
flexible	Bends easily without breaking.
twist	To form a material into a spiral shape.
stretch	Make longer or wider without tearing or breaking.

Enquiry Skills

Fair testing

Pattern seeking

Identifying and classifying

Working Scientifically Skills

Question, answer, observe, sort, group, compare, measure, test.

Record results – diagram, chart.

