



Key Scientist Charles Macintosh was a Scottish inventor and chemist, who invented waterproof fabrics in 1818. The Mackintosh raincoat was introduced in 1824. He invented the first waterproof fabric by painting a dissolved rubber solution onto cloth.



This is his Google doodle.

Uses The first structural materials used in powered aircraft were wood covered with fabric. Wood was the material of choice in early aircraft because it is hard and strong. Also, wood was easily carved into shape for the main body and wings.

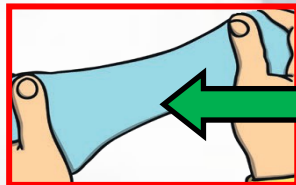
### Key Knowledge

Material	Properties
wood	hard, stiff, strong, opaque, and 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

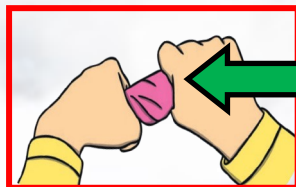
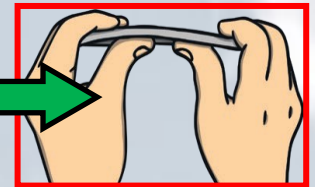
Word	Definition
materials	what objects are made from
suitable	having the properties which are right for a specific purpose
properties	what a material is like and how it behaves (soft, stretchy, waterproof)
waterproof	when a material does not let water pass through it

### Stretching, Bending, Twisting and Squashing



You can stretch an object by pulling your hands slowly and gently apart.

You can bend an object by grabbing both ends of the object and bringing the ends inwards together.



You can twist an object by turning your hands in opposite directions.

You can squash an object by pushing both hands together.

