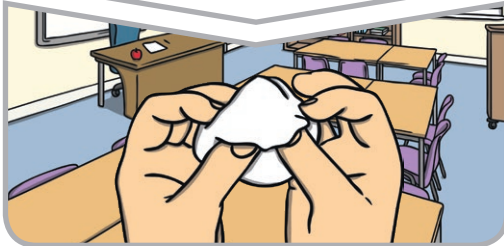


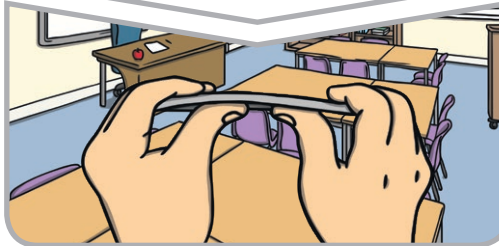
## Key Vocabulary

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

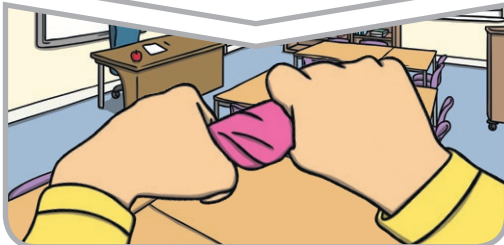
**Squash** an object by pushing both hands together.



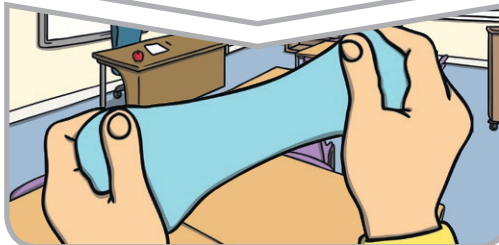
**Bend** an object by grabbing both ends of the object and bringing the ends inwards together.



**Twist** an object by turning your hands in opposite directions.



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

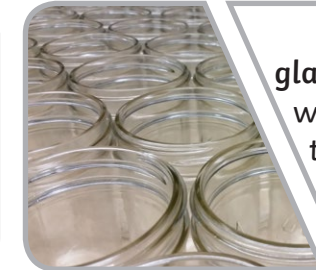


## Key Knowledge

### Properties of Materials



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



**glass:**  
waterproof,  
transparent,  
hard, smooth.



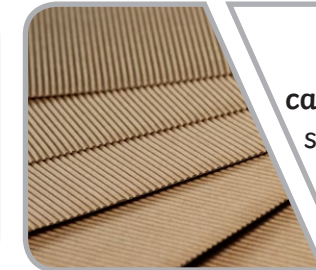
**plastic:**  
waterproof,  
strong, can  
be made to be  
flexible or stiff,  
smooth or rough.



**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.

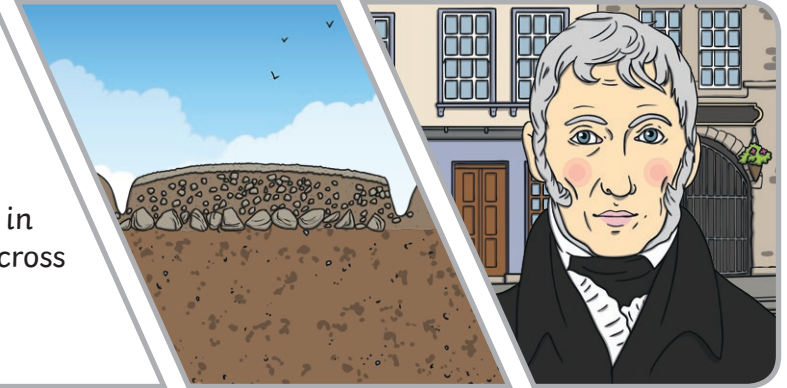
## Key Knowledge

<p><b>John McAdam</b></p>	<p><b>John McAdam</b> was a Scottish engineer who experimented with using new <b>materials</b> to build roads, inventing a new process called '<b>macadamisation</b>'.</p>
<p><b>John Dunlop</b></p>	<p><b>John Dunlop</b> 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.</p>
<p><b>Charles Macintosh</b></p>	<p><b>Charles Macintosh</b> was a Scottish inventor and chemist who invented waterproof fabrics in 1818. The Mackintosh raincoat was introduced in 1824.</p>
<p><b>Macadamisation</b></p>	<p><b>Macadamisation</b> was the name given to <b>John McAdam's</b> construction process of building roads. The name tarmac means a road made like this using tar.</p>

## People who developed new **materials**:

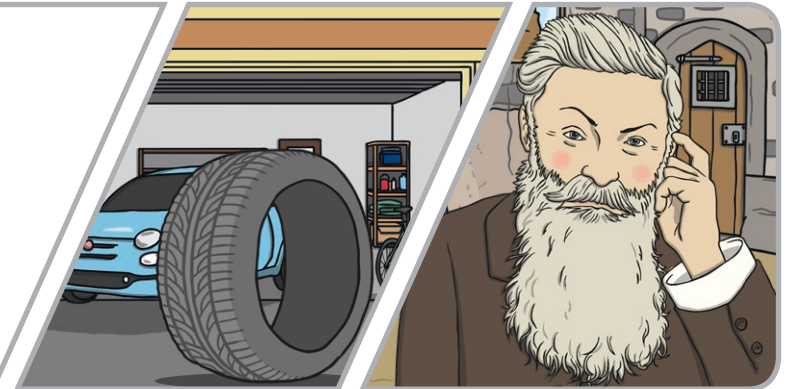
### John McAdam's

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



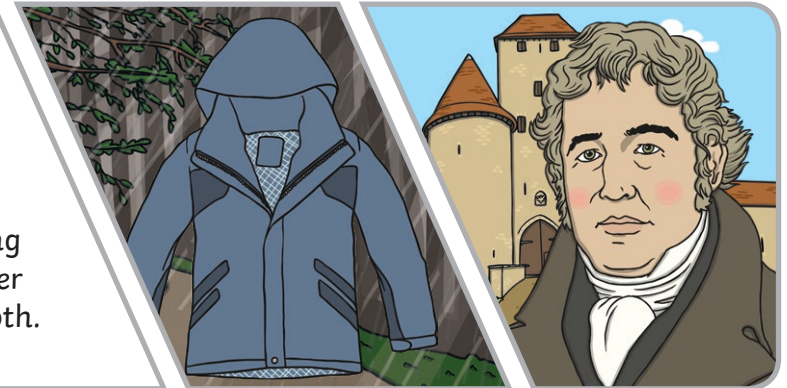
### John Dunlop

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.



To look at all the planning resources linked to the Uses of Everyday Materials unit, [click here](#).