



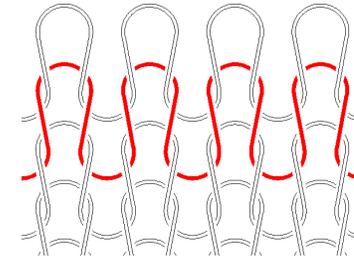
# Textiles

Year 7 Progress Check Revision

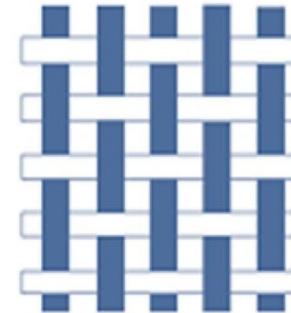
# Textile's revision

Natural or synthetic fibres are knitted or woven into fabrics.

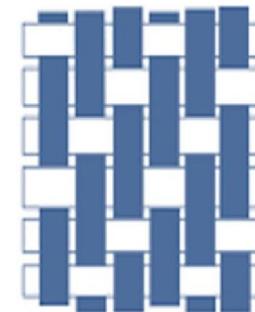
NATURAL FIBRES	SYNTHETIC FIBRES
<p>Come from <b>plants</b> or <b>animals</b>.                      These are all <b>sustainable</b> because we can always grow more plants or breed more animals</p>	<p><b>Manmade</b> or manufactured obtained from <b>petrochemicals</b> - coal or oil.                      - <b>unsustainable</b> – we will run out if we keep using them.</p>
<p><b>Cotton – Plant</b>                      Cotton shirt, summer dress, bed sheets.                      Cool comfortable and breathable</p> <p><b>Wool – Animal</b>                      Wool Jumper, blankets                      Warm, and soft</p> <p><b>Silk - Insect</b>                      Silk wedding dress                      Luxury, smooth but expensive</p>	<p><b>Polyester</b>                      School blazer, trousers                      Strong, cheap                      easy to clean.</p> <p><b>Nylon</b>                      Seatbelts or coats                      Very strong, waterproof                      not very comfortable.</p> <p><b>Elastane</b>                      Sportswear, dancewear                      Smooth and Stretchy.</p>



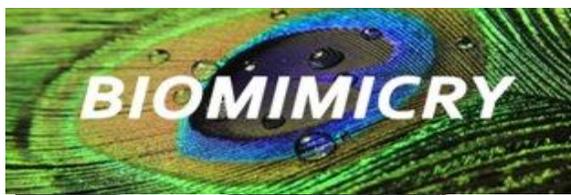
Knitted



Plain weave



Twill weave



Biomimicry is a practice that learns from and mimics the strategies found in nature to solve human design challenges.



<https://youtu.be/MFHcSrNRUSE>



## Velcro

Discovered by accident walking a dog. This material is used in **LOTS** of products. It enables one piece to join the other and was inspired by the burrs sticking to his dogs hair.

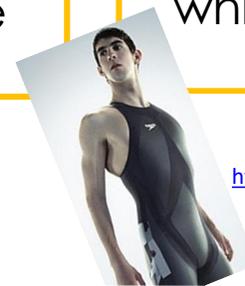


## Lotus Effect

When water is spilled onto a lotus leaf the water doesn't soak the leaf, instead it beads up and rolls off the leaf. Scientists mimicked this effect into fabrics and sprays which would repel the water mimicking the Lotus leaf effect.

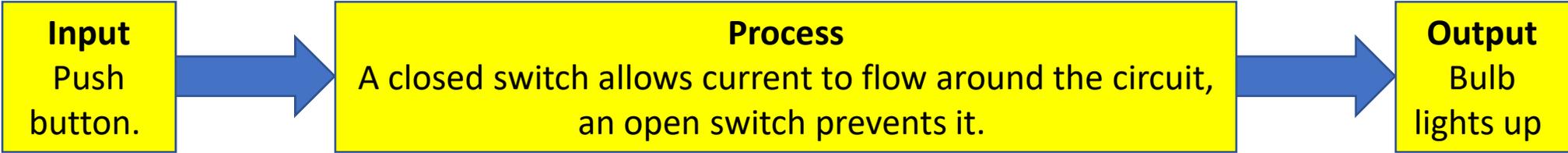
## Shark + Swimwear

Observing the sandpaper like skin of sharks which helps them reduce drag companies such as **Speedo** produced a 'fast line' performance swimwear collection. First used in the 2000 Olympics which assisted in 13/15 world records.



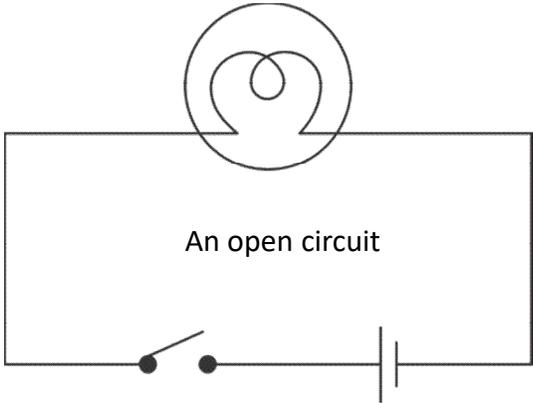
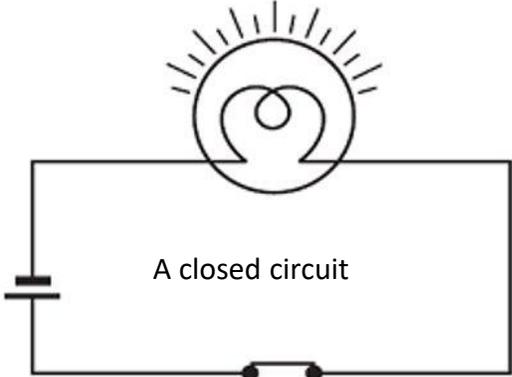
<https://www.youtube.com/watch?v=QrSvHxyc950>

# Systems and E-Textiles



Circuit Symbols

Battery	
Switch (open)	
Bulb (lamp)	



# Revision Questions

Fill in the blanks to complete the table	
Fibres	Fibres
Come from _____ or _____ These are all _____ because we can always grow more plants or breed more animals	Manmade or manufactured obtained from _____ - unsustainable – _____ _____
Examples	Examples

Q Can you explain an example where a designer has used biomimicry to solve a design challenge ? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Finish the table by drawing the correct circuit symbols	
Battery	
Bulb	
Switch	

Q Can you give examples of an Input, process and output?

Input \_\_\_\_\_

Process \_\_\_\_\_

Output \_\_\_\_\_

Q Why do we need to be careful not to leave any gaps in our circuits? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_