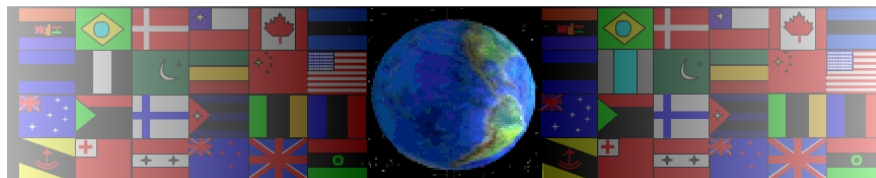


REVISION CARDS - BIOMIMETIC DESIGN (BIOMIMICRY)

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On behalf of The World Association of Technology Teachers

W.A.T.T.



World Association of Technology Teachers

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WHAT IS BIOMIMICRY?



Biomimetic design (biomimicry) is where nature inspires a designer / scientist / engineer, to design a product. Sometimes a designer / scientist will look at the way nature has solved a problem through evolution and then he / she will apply it to a design problem.

Designers often look at nature for answers to design problems. There are many examples.

EXAMPLE OF BIOMIMETIC DESIGN

BURR → VELCRO



In 1941 Swiss engineer Georges de Mestral was walking his dog through a field, when he realised that the dog's fur and his trousers had numerous burrs attached to them. Burrs have natural hooks that attach to almost any type of fur and also textiles. A consequence of this event, is that he invented velcro.

EXAMPLE OF BIOMIMETIC DESIGN

KINGFISHER → JAPANESE BULLET TRAIN



The shape of the 'nose' of the Japanese bullet train, was inspired by the kingfisher. The shape is very efficient and helps the train to move at very high speeds, due to reduced drag. The shape also reduced the noise of the train, as it exited tunnels at high speed. Other trains create a loud deep resonant sound when leaving a tunnel at high speed.

1. In your own words, what is Biomimetic Design (Biomimicry)? 4 marks

2. Describe one example of biomimetic design. 4 marks
