

How Do Humans Copy Nature?

LIFE SCIENCES

Get curious

Video/ Slide show

Watch the video “Science Copies Nature’s Secrets”.



You don't have to watch the whole film. 5-6 minutes will be enough.

You can ask the students: What is biomimicry? Can you think of any examples of devices or inventions that have been inspired by nature?

Get going

Observing

The students look at some maple seeds and think about the solutions they have inspired in aviation.

Provide the students with maple seeds. If you don't have any real seeds you can make them out of paper. The students observe what happens when maple seeds fall from a great height – for this purpose they can get on chairs and benches. Sum up the class's observations: Falling seeds spin round their own axis – just like the propeller of a plane, which was actually modelled on them.

Video/ Slide show

Watch the film and talk about the living organisms that provided the inspiration for the first planes.

Ask the students: What did the first planes look like? What living organism do you think was the inspiration for them? Talk about how people have used nature as a model when looking for ways to fly in the air.

Experiment

The students carry out a simple experiment to see how vehicles move across the surface of water. What living organisms provide them with inspiration?

Puzzle/quiz

The students take part in a quiz and see examples of biomimicry applied in different areas of life.

Show a slide (no.2) with examples of devices invented by human beings (above) together with their equivalents in nature (below). The task of the students is to match the inventions with their inspirations. Then show slide no. 3 and check if their answers are correct. You can ask the students: Can you think of any other (already existing) machines and devices inspired by nature?

Get practicing

Students examine a living organism. They look at one interesting feature it has and use it as inspiration for a device/invention they will make with any materials they like.

Each student can choose any plant or animal they wish. They should find out about its structure, properties and specific skills and think about which of its features are most interesting – what does this animal/plant have that a human being does not have but could have. It can be a solution for improving something that already exists or for discovering something completely new. The students then design one such solution from any materials they want and bring it to the next class. Look at all their designs and have a discussion about them.
