



How is biomimicry defined in *Creatividad silvestre* | *Wild Creativity*?

Biomimicry is an approach to engineering that learns from nature's strategies to help solve human challenges.

What are examples of biomimicry?

Biomimicry can be used to design forms, processes, and systems.

Velcro®

The tiny hooks on some seeds that catch on fabric and fur inspired the invention of Velcro®. Velcro® fasteners easily open and close because they are made with many small loops and hooks like those on the seeds.

Bullet Train

Bullet trains in Japan traveled so fast that they would create a loud “boom” sound as they pushed air out of tunnels. Engineers redesigned some of these trains so the front mimics the wedge-shaped beak of the kingfisher bird. This nature inspired design improvement reduces the buildup of air in front of the trains making them quieter and more energy efficient.

Vertical Wind Turbines

Fish swimming together in schools maintain a consistent space around each fish. Spaced this way, movements in the water created by each fish do not interfere with the swimming of others. This pattern has inspired the design of vertical wind turbines. The turbines are arranged like the schooling fish to make efficient use of space and airflows.



What are the key concepts of biomimicry?

A **function** is the purpose of something—what it does.

A **strategy** is how a function gets done.

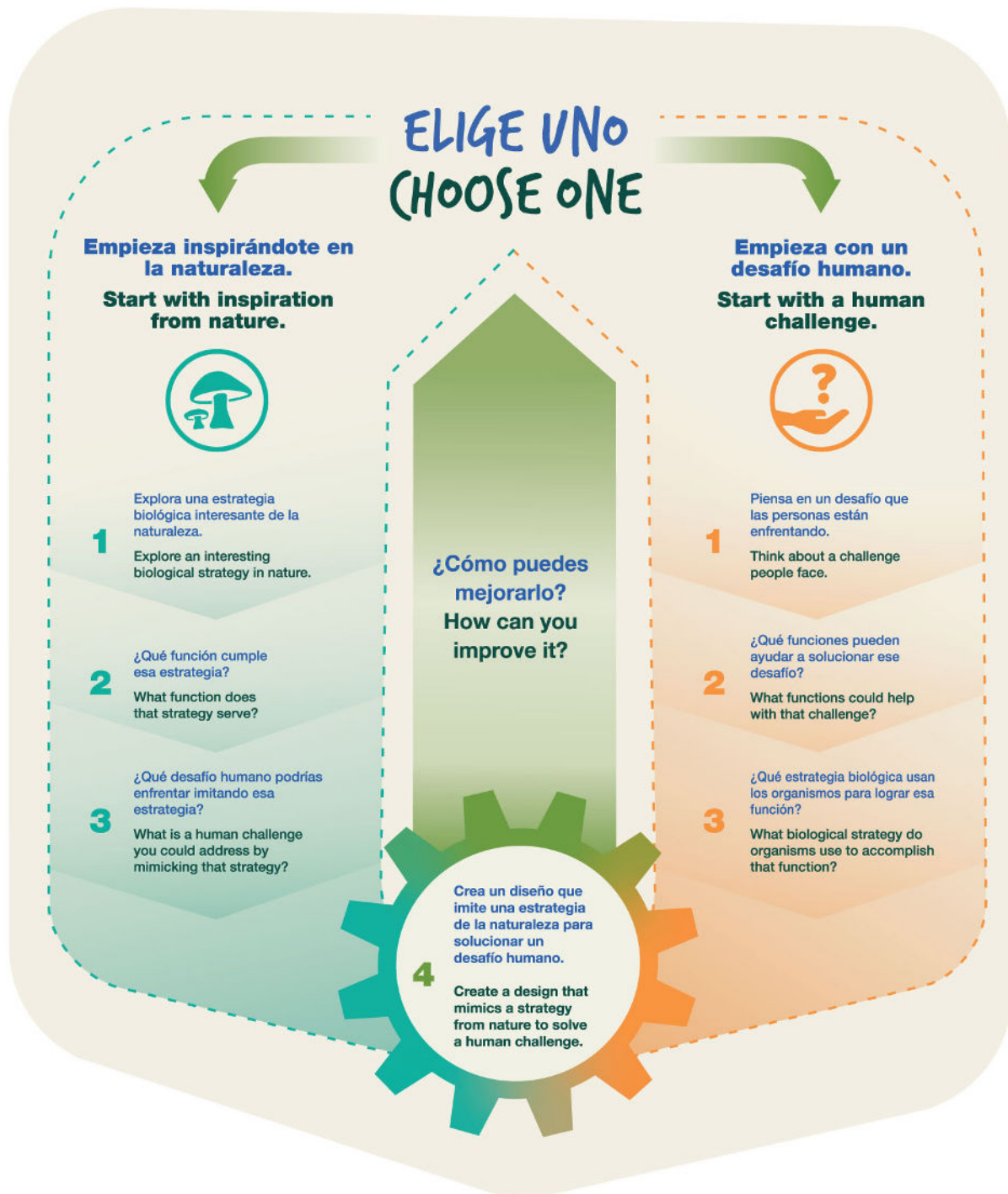
To design using biomimicry, match a function—what you want to do—with possible strategies from nature for how to do it.

For example:

Function	Potential strategies
Protect	Hide, insulate, fortify
Move	Swim, fly, burrow
Build	Stack, weave, attach
Capture	Filter, absorb, trap

How is biomimicry done?

People approach biomimicry starting either with a natural inspiration or a human challenge. They then ask themselves a series of questions to decide how to create a design that mimics a strategy in nature to solve a human challenge.



How can biomimicry help our communities?

People around the world are using biomimicry to improve approaches to agriculture, clean energy, transportation, and more. By studying nature's solutions, we can develop innovative approaches like sustainable farming, efficient energy generation, eco-friendly transportation, smart water management, and advanced materials.

Biomimicry, as defined in *Creatividad silvestre | Wild Creativity*, is an engineering approach that learns from nature's strategies to solve human challenges. Biomimicry matches functions with strategies to design solutions. Engineers use natural inspiration or human challenges to create designs that mimic nature's strategies.