print double-sided

Humpback Whale
Native to waters off the coast of BC

Dogfish Shark
Native to waters off the coast of BC

Common Burdock
Invasive in BC

Belted Kingfisher
Native to BC

Banana Slug
Native to BC

Abalone
Native to waters along the coast of BC

Garter Snake
Native to BC

Mosquito
Native to BC

Bio-mimicry

Swimsuits

Inspired by sharkskin's ability to reduce drag and prevent microorganisms from attaching, these suits are used in competitive swimming.

HCTF Education

Bio-mimicry

Wind Turbines

The bumps on a humpback whale's fins, called tubercles, inspire wind turbine blade designs to improve their energy efficiency.

HCTF Education

Bio-mimicry

High Speed Train

The streamlined design of the Shinkansen Japanese bullet train mimics the beak of a kingfisher to improve aerodynamics.

HCTF Education

Bio-mimicry

Velcro

This hook-and-loop fastener was created by George de Mestral after observing how cockleburs, a plant similar to common burdock, stuck to his dog's fur.

HCTF Education

Bio-mimicry

Windshields

The hard but flexible coating on windshields is based on the mother of pearl substance found on abalone shells.

HCTF Education

Bio-mimicry

Medical Adhesive

Slug slime sticks to wet surfaces while remaining flexible. Scientists are investigating this property of slug slime to find an adhesive to replace stitches in internal surgeries.

HCTF Education

Bio-mimicry

Medical Needle

By mimicking the mosquito proboscis, researchers have developed a 3-prong needle that significantly reduces the pain from needle insertion.

HCTF Education

Bio-mimicry

Shoe Grip

Shoe soles that mimic the scales on the skin of a snake make shoes more grippy and reduce slip and fall accidents.

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Little Brown Bat
One of 15 species in BC

Orb Weaver Spider
Various species found in BC

Pacific Chorus Frog
Native to BC

Mussels
Native along the coast of BC

Peregrine Falcon
Native to BC

Tumbleweed (Russian Thistle)
Invasive in BC

Pileated Woodpecker
Native to BC

Bull Kelp
Native to waters off the coast of BC

Bio-mimicry

Bird-Friendly Glass

Spiders don't want birds to collide with their webs and have incorporated UV-reflective silk strands. Bird Protection Glass uses the same UV-reflective coating to avoid collisions.

HCTF Education

Bio-mimicry

Radar and Sonar

Radar and sonar navigation technology and medical imaging are inspired by the echolocation abilities of bats.

HCTF Education

Bio-mimicry

Underwater Glue

Glue able to form strong bonds underwater was developed based on the strong structures, called byssal threads, that mussels use to attach themselves to rocks, boats, and docks.

HCTF Education

Bio-mimicry

Adhesives

Adhesives for microelectronics and space applications are inspired by the powerful abilities of geckos, frogs, and lizards to cling to surfaces vertically or even upside-down.

HCTF Education

Bio-mimicry

Planetary Rover

A wind-driven planetary rover design that maximizes drag is based on the tumbleweed plant. Like the wind-blown tumbleweed, the rover travels without expending energy.

HCTF Education

Bio-mimicry

Airplane Wings

Airplane wings are being inspired by how birds fly. Like birds, who can change their flight speed by altering their wing shape and position, the plane wings change shape depending upon the speed and length of the journey.

HCTF Education

Bio-mimicry

Propeller

New propellers are inspired by the spiral shape of kelp. These propellers would have less drag, using less energy to move water and ships, as kelp moves with ocean currents rather than fighting them.

HCTF Education

Bio-mimicry

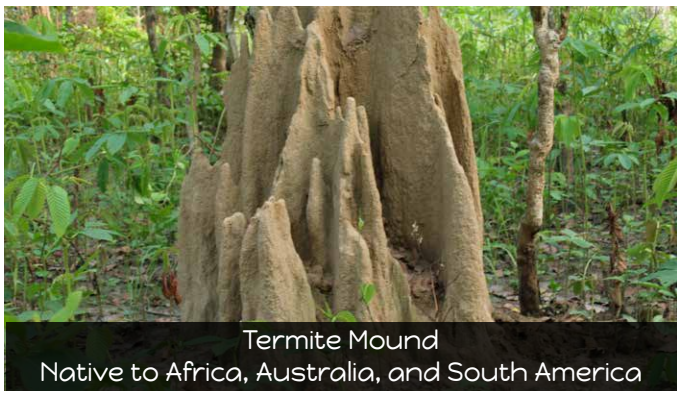
Ice Axe

A woodpecker-inspired ice pick axe incorporates an adjustable aluminum point and a slightly curved handle. This mimics the woodpecker's anatomy, providing the user with a better grip and impact.

HCTF Education

Namib Beetle
Found in Namibia

Oyster Mushroom
Native to BC



Termite Mound
Native to Africa, Australia, and South America

Animal Limbs

Photosynthesis

Vine Maple
Native to BC

Super-white Cyphochilus Beetle
Native to Southeast Asia

Pacific White-Sided Dolphin
Native to waters off the coast of BC

Bio-mimicry

Toxin-eating Fungi

Researchers have discovered fungi that can transform synthetic materials into harmless organics. Scientists are selectively breeding the fungi to treat heavily polluted waste.

HCTF Education

Bio-mimicry

Harvesting Fog

Cooling tower plumes are being designed to mimic the Namib beetle. The beetle has ridges on its back that condense water vapours from the desert fog. The beetle raises its back to channel the collected water into its mouth.

HCTF Education

Bio-mimicry

Flexible Bridges

New bridges mimic the shock absorption capabilities of animal limbs. The bridges have a sliding mechanism that allows them to move and withstand sudden impacts. This mitigates impacts to the structure.

HCTF Education

Bio-mimicry

Building Ventilation

Inspired by termite mounds, which thermoregulate efficiently, engineers in Zimbabwe have built a shopping mall that uses 10% less energy to cool the building.

HCTF Education

Bio-mimicry

Seed Pod Fan

The ceiling fan design based on seed pods have won many design awards. They provide excellent airflow at low at low spin rates, run quieter and are highly energy efficient due to their aerodynamic designs.

HCTF Education

Bio-mimicry

Plant Power

It takes a lot of energy to make chemicals. Plants produce energy using sunlight, with a substance called chlorophyll. This has inspired the creation of other light-absorbing substances. A cleaner way to fuel the high temperatures that chemical production needs.

HCTF Education

Bio-mimicry

Underwater Communication

Dolphins communicate complex information by distributing their chirps and songs over a wide frequency band (rather than a narrow band). This greatly negates specific disturbances and provides clarity even through echoes.

HCTF Education

Bio-mimicry

White Paint

White paint often contains a toxic pigment called titanium dioxide. Researchers have created a better and safer white pigment by studying the Super-white Cyphochilus beetle, which has a unique skin structure that reflects white light.

HCTF Education