



IDEAS FROM NATURE

Activity Guide

Objectives

- Introduction to ways in which nature helps humans solve problems.
- Investigate examples of biomimicry from nature.
- Design an invention by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

Materials

- Activity Guide accessed through the *Getting Started* link for this topic.
- Field Notebook Activity Pages accessed using the *Field Notebook* link for this topic.
- Idea From Nature Cards and Video Resource provided using the *Media* link for this topic.
- A piece of paper and art supplies of your choosing to complete your design.

Summary of Activities

- **Step #1** View the Loops Scoops video "Ideas From Nature Example" highlighting the invention of velcro provided in the *Media* section of this topic. The idea of velcro (a human-made product) was inspired by a natural phenomena (burrs getting stuck in a dog's fur) and is now used widely to hold or secure things together in a variety of different ways. A prevalent example is in shoes! Take a look at your shoe collection or around your house, can find find something that has velcro?
- The "hooks" on the velcro mimic (or copy) the "hooks naturally found on burrs and some seeds in nature. When two pieces of velcro are pushed together they hold on tight! This makes them great at holding shoes securely on your feet while you walk just like burrs or seeds hold on to animal fur so they can travel and find new places to grow!
- **Step #2** Display the Ideas From Nature Cards provided in the *Media* section of this topic. Look closely at each and use clues in the photos and descriptions to match each nature thing (plant or animal) with something human-made to find out what ideas from nature have inspired humans!
- **Step #3** Complete the activity "What Ideas Come From Nature?" located in the *Field Notebook* materials.
- **Step #4** Thinking about the place you live, complete the activity "My Idea" found in the Field Notebook materials. Look closely at the "Ideas From Nature" cards found in the *Media* materials. Based on the photos and information on them, try think of an idea for a new invention that would make sure you were prepared and stayed safe on a hike after you make your list of things you need to be prepared.
- **Step #5** Design your invention! Gather art supplies from around the house and draw your idea from nature using the "My Design" sheet found in the *Field Notebook* materials. Remember: your design should mimic (or copy) a characteristic of one or more of the plants or animals found in the Ideas From Nature Cards. Can you do it?
- **Step #6** Share your creation with our Facebook and Instagram community - don't forget to tag us [@getoutdoorsnv!](#)



IDEAS FROM NATURE

Activity Guide

Ideas From Nature Inspiration Cheat Sheet

Jackrabbit - Fan

Large ears = large amount of surface to get rid of body heat
They use their ears to regulate their body temperature just like humans use fans and air conditioning in the desert.

Bighorn Sheep - Sneakers

Hooves are divided into multiple parts enabling grip as well as flexibility
Feet have a tough exterior but an almost sponge-like interior that absorbs contact and protects the rest of the animal's leg

Bald Eagle - Fighter Jet

Raptor; Predator

Highly maneuverable in flight; able to turn, dive, and double back when approached or when hunting

Barrel Cactus - Water Bottle

Ability to retain water has allowed it to become one of the most widespread cactus species in the Mojave Desert

Shape creates almost a reservoir for water

Specialized roots can absorb every drop of water

Desert Tortoise - Helmet

Carapace (shell) helps protect from predators and other danger

Joshua Tree - Sunscreen

As these plants grow new leaves, older leaves fold down to cover the tree's branches, protecting it from sun damage and helping to slow down water loss on hot, sunny days in the Mojave Desert.

Gecko - Tape

Millions of tiny hairs covering feet and legs that allow them to grip onto surfaces

Flow of motion is self-cleaning



Thank you to our generous sponsors.
Without you, this would not be possible.

BARRICK

OPERATING NEVADA GOLD MINES

TESLA

