

Reading Comprehension Worksheet: Details & Examples

Read the short story and answer each question.



Nature's Inventions

Topic: Biomimicry — how engineers copy nature to solve human problems

When you think of inventors, you might picture someone in a lab coat working with wires and machines. But some of the greatest ideas don't come from labs—they come from animals and plants.

Biomimicry is when humans design something by copying nature. For example, the shape of an airplane wing was inspired by birds. Engineers studied how birds curve their wings during flight and used that design to help planes lift smoothly into the air.

Velcro, a tool used every day to fasten shoes and bags, was inspired by a plant. In the 1940s, a man noticed that tiny burrs stuck to his dog's fur after a walk. Under a microscope, he saw the burrs had tiny hooks—just like the ones in Velcro today.

Shark skin is another example. Sharks have rough, bumpy skin that helps them swim faster and keeps tiny organisms from sticking to them. Scientists created a similar texture to cover ships, making them move more easily through water—and stay cleaner!

Even termites have inspired engineers. In Africa, termite mounds stay cool inside even when it's hot outside. By copying the way air flows through these mounds, architects have built energy-saving buildings that don't need air conditioners.

Nature has been solving problems for millions of years. All we have to do is pay attention—and take notes.



Name: _____

Nature's Inventions

1. What is biomimicry?

- A. A way for plants to grow faster
- B. A method for animals to learn to fly
- C. A design idea that copies something from nature
- D. A machine made entirely out of natural materials

2. What does the text say inspired the invention of Velcro?

- A. A flying insect
- B. A sticky tree sap
- C. A smooth rock
- D. A burr stuck to a dog's fur

3. Fill in the blank:

By studying the way air flows through termite mounds, engineers have created buildings that stay _____ without air conditioning.

4. What are two specific examples from the text that show how engineers use animals or plants to solve problems?

5. What can you infer about why nature is such a helpful guide for creating new inventions?



Parent and Teacher Guide

Guide Reading Level: S

Lexile Level: 850L-1000L

Grade Level: 4th Grade, End of the Year

Genre: Informational Nonfiction (Engineering & Nature)

Introducing the Text

"Today we'll read about how scientists and engineers use ideas from the natural world to solve problems and invent useful tools. This process is called biomimicry. As we read, we'll look for clear examples in the text and practice making inferences about why copying nature works so well."

Vocabulary: biomimicry, engineer, texture, burr, architecture

Before Reading Discussion Questions

1. Can you think of a tool or invention that copies something from nature?
 2. What are some things animals or plants do really well?
 3. Why might humans want to study nature when designing something new?
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During Reading Discussion Questions

1. What did the man learn by looking at burrs under a microscope?
 2. How is shark skin helpful to both sharks and ships?
 3. Why do engineers study termite mounds when designing buildings?
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After Reading Discussion Questions

1. What does the text say about nature's problem-solving over time?
 2. How do the examples in the text support the idea that nature can inspire invention?
 3. What might an illustration show about biomimicry without using any words?
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Activity Idea

Give students a challenge: Invent something new based on a part of nature. They can draw their design and write a short explanation of how the plant or animal inspired their idea. Encourage them to think about textures, movement, or survival skills. Display their "nature-inspired inventions" in a gallery walk format.

