Animals That Use Mimicry

by Cindy Grigg
Answer the following questions **BFORE** you read this book. It is okay if you do not know as much as you thought. Do the best you can!

1. **How do animals avoid predators? List as many ways as you can think of.**

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   __________________________________________

2. **Why would an animal mimic another animal?**

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   __________________________________________

3. **What is animal camouflage? How does it help animals?**

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There are perhaps as many as three million different species of animals on Earth. Some animals are herbivores that only eat plants. Many are carnivores that eat other animals. Many animals wind up as another animal's prey. How can they avoid being eaten?
Some animals are fast and can outrun most predators. Some use camouflage to hide from predators. Camouflage helps animals blend in with their surroundings so they are not so easy for predators to see.

If you can't run and you can't hide, what could you do to stay safe?

Some animals try tricking predators. These animal copycats mimic other animals (called models) to fool their predators. Most often the mimics make predators believe that they are an animal the predator fears or does not like to eat. Mimicry is an animal adaptation that helps some animals live longer. This harmless hoverfly mimics a stinging honeybee. Animals know the striped bee will sting them, so they leave this kind of fly alone.
The caterpillars of the spicebush swallowtail butterfly are expert copycats. As young caterpillars, they are dark brown streaked with white and resemble bird droppings (poop). No bird wants to eat them!

In their fourth and last caterpillar stage, they become greenish-yellow. They have two large false eyespots. These spots look like eyes. They help the caterpillar look like a common green snake. Birds stay away from snakes!
To make the disguise complete, the caterpillar has another trick. If attacked, it thrusts out its osmeterium (oz-me-TEAR-ee-uhm). This y-shaped organ looks like a snake's tongue. It gives off a foul odor to further discourage predators from eating its owner!

Photo credit: Megan McCarthy

These tricky caterpillars change into beautiful butterflies that are copycats, too. They look like the pipevine swallowtail butterfly. It tastes bad! If birds know that, they will most likely leave the spicebush swallowtail alone.
Coral snakes are poisonous. They have colorful bands of black, red, and yellow. The yellow bands are always next to the red ones.

King and milk snakes mimic the bright colors of the coral snake. King and milk snakes have bands of red, black, and yellow. The yellow sections have black bands on each side of them. But this coloring fools most predators. They see the colorful bands and leave these harmless snakes alone.

There's a rhyme people use to help them remember which snakes are poisonous --Red touch yellow, kill a fellow; red touch black, venom lack. Can you tell which of these is the venomous coral snake and which is the mimic?
Eyespots are a common trick that animals use to confuse predators. Many kinds of butterflies, moths, caterpillars, frogs, and fish have large circles on their bodies that look like eyes. Predators often aim for the eyes (or the head). Eyespots fool them into attacking a less vulnerable part of the body.

The foureye butterflyfish has large eyespots near its tail. These false eyes trick predators into believing the fish will flee tail first, when it will actually swim away in the opposite direction!
Eyespots can also fool predators in another way. Really big eyespots trick predators into thinking they are seeing the eyes of a much bigger animal. The owl butterfly rests on tree trunks. Its brown coloring helps it blend in with the color of the tree's bark. Its eyespot mimics the eye of an owl. Most predators looking for a moth won't go near an owl!

This harmless gopher snake mimics a poisonous rattlesnake. The gopher snake will often shake its tail to confuse predators into thinking it is a rattlesnake. But instead of striking with an open mouth like the rattlesnake, the gopher snake is known for striking with a closed mouth. It uses its blunt nose to strike at animals it sees as a threat, including humans.
Mimicry helps animals live longer, which makes it a desired trait. If an animal mimic can trick its enemy into thinking it is something less tasty or more dangerous, it will survive. The animal mimic may smell, sound, or behave like the creature or object it is mimicking, not simply look like it.

Over time, animals that use mimicry lived longer than those that didn't. Animals with these special traits passed them down to their offspring. Ones that didn't have them died out. Mimicry is just one way that animals have adapted and changed over time.

Answer the following questions AFTER you have completed this book.

1. What are models as described in this book?

2. What are some specific reasons that some animals mimic other animals?
3. Which of the items in this list are ways that eyespots help animals avoid predators? Circle them.

- Helps small animals look like a bigger one
- Gives off a foul odor
- Gives predators a less vulnerable target to attack
- Helps smaller animals hide from larger ones
- Tricks predators into thinking a harmless animal is dangerous
- Helps animals change color to match their surroundings
- Tricks predators into thinking the tail end is the head end

4. In your own words, write a definition for "mimicry." What is its purpose?

5. Compare and contrast mimicry and camouflage. How are they alike? How are they different?
6. Imagine that you are an animal that uses mimicry. Tell what kind of animal you are and describe an experience you have had when mimicry helped you live longer.