

**Common Core State Standards**

Informational Text 3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. **Also Informational Text 2., 7., 10.**

Science in Reading**Genre****Expository Text**

- Expository texts contain facts and information about different subjects.
- Some authors of expository texts use cause and effect to explain the relationships among ideas.
- Some authors of expository texts use graphics to illustrate information. These graphics can give you an overview of the contents.
- Read "The Art of Mimicry." Think about how cause and effect influences relationships among the ideas in the text. Use the heads and graphics to help you gain an overview of the text and locate information.

The Art of Mimicry

by Robert Kausal



Leaf-Mimic Mantis

Have you ever imitated the way a celebrity or a friend talks? Or maybe you can imitate the way your uncle Bob falls asleep while watching television. This is called mimicking. When we mimic, we usually do it to make other people laugh. But when animals mimic, it is often a matter of survival.

Many animals know that the best way to prevent becoming a predator's lunch is to appear as dangerous or unappetizing as possible. You may be surprised to learn that there are many animals that specialize in the art of mimicry.

Sticks and Stones

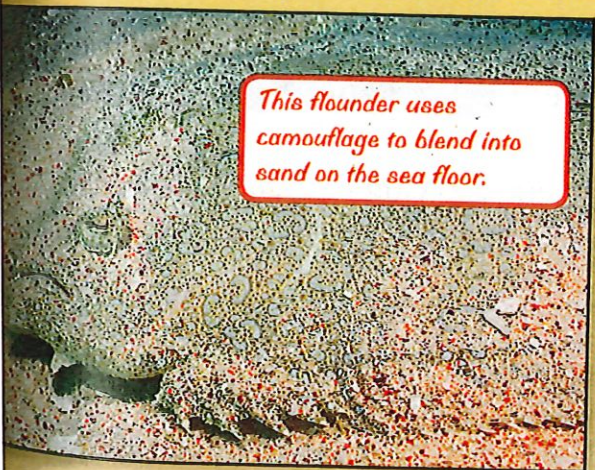
There is a critical difference between animals that use camouflage and animals that mimic. Animals that use camouflage try to "blend in" to their environments to avoid predators. Insects are especially good at this. There are insects that look like sticks, leaves, thorns, pebbles, and even bird droppings!

Animals that mimic model themselves after objects or other animals. Some of nature's best mimics of objects are insects. Many insects have adapted by making themselves look like other objects in their

environments. They adapt by mimicking the sounds, movements, or behaviors of things or animals in their environments. Let's take a look at some of these animals that mimic.

A Master of Disguises

In the tropical waters of Indonesia lives the mimic octopus. This creature is a master of disguises. Most octopuses hide among reefs and rocky areas, but the mimic octopus's environment is muddy and sandy. Since places to hide are scarce, the mimic octopus has learned to trick predators into



This flounder uses camouflage to blend into sand on the sea floor.

thinking it is another type of fish.

The flatfish is one of the mimic octopus's most successful disguises. The mimic octopus can change its shape and glide

along the ocean floor just like a flatfish. Why a flatfish? For most ocean predators, eating a flatfish is like drinking sour milk. It tastes horrible! The amazing mimic octopus can also imitate a poisonous lionfish and a sea snake. Some divers believe the mimic octopus has other disguises as well.



Mimic Octopus

Let's **Think** About...

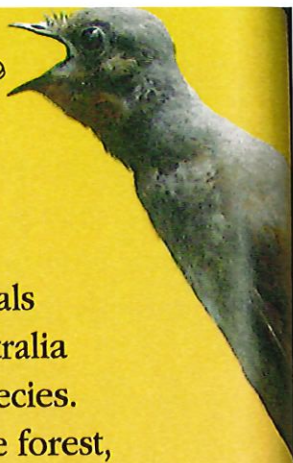
What causes animals to mimic? Provide a reason from the first page of this article.

Expository Text

Let's **Think** About...

How do the graphics on this page help you understand the information in the article?

Expository Text



It's a Dog—It's a Plane—No, It's a Lyrebird!

While many animals mimic other animals to fool predators, the male lyrebird of Australia mimics sounds to attract females of the species. This small brown bird clears a space in the forest, spreads its elaborate tail feathers, and begins a concert of sounds that amazes and fools any listener.



Lyrebird

Besides mimicking more than twenty different kinds of species, the lyrebird also imitates some unusual sounds. These include a chainsaw, a camera, a crying baby, a dog, a car alarm, and even musical instruments! This bird is like a one-man band!

Having a Hissing Fit

Snakes might look scary enough to you and me, but sometimes even they need a little help to keep enemies away. The hognose snake is a harmless snake found throughout the United States. However, its pattern of irregular dark spots enables the hognose to look like a venomous rattlesnake. When threatened, the hognose mimics the behavior of a



Hognose Snake

Let's **Think** About...

How does the graphic example at the bottom of this page help you understand the last paragraph?

Expository Text



rattlesnake. It coils up, hisses loudly, and strikes out at its predator, but this is all for show since the hognose doesn't have fangs or venom.

If acting like a venomous snake doesn't work, the hognose will roll over, stick out its tongue, release a foul smell, and play dead. So don't make the mistake of trying to pick up a dead hognose. It's not sterile!

The Last Resort

Sometimes the animal kingdom must rely on the ultimate survival tactic . . . playing dead. Many animals, such as bats, lizards, spiders, and toads, will play dead to fool their predators. This strategy works well. Many predators don't like to eat dead animals. This could be because there is no thrill in the hunt (or in a toad's case, because the animal's body is covered in mucus).

Not only weaker or smaller animals practice mimicry. Even predators get into the act. For example, some spiders behave and smell like ants. One type of spider even puts an ant on its back to disguise itself, like a wolf in sheep's clothing.

Many animals have learned to survive by practicing the art of mimicry. This form of deception won't get them an acting award, but it might help them live another day.



Let's **Think** About...

Why do animals play dead? Provide a reason from this page.

Expository Text

Let's **Think** About...

Reading Across

Texts What can readers learn about the ways in which animals and organisms adapt by reading *Exploding Ants* and "The Art of Mimicry"? What can they learn by reading these two texts, and then "Small but Mighty"?

Writing Across

Texts Write a paragraph that explains which of these adaptations you think is most useful and why.

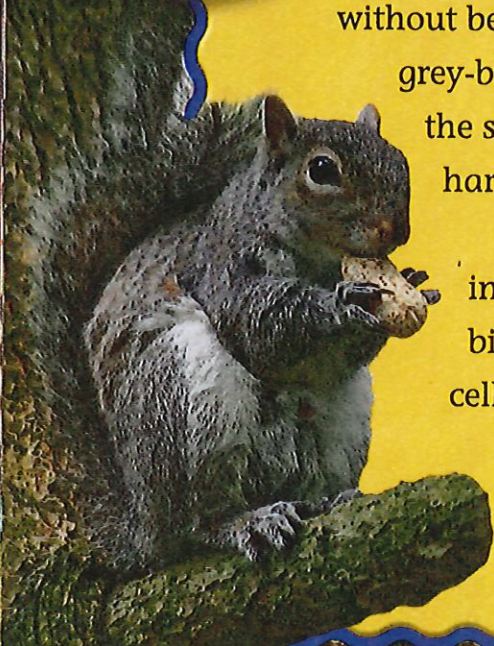
A "COAT" OF MANY COLORS

Life can be tough for some animals. Imagine spending most of your life either looking for food or trying to avoid becoming food for predators. Yet one or both of these tasks are necessary for individuals and species to survive.

How does a lion sneak up on its prey without being seen? How can an insect protect itself from birds looking for a tasty snack? How do little fish avoid becoming prey to bigger fish? Whether you are a predator or prey, the ability to seem to disappear into your surroundings is a huge advantage.

The word *camouflage* comes from a French word meaning "to disguise." A camouflaged animal takes on the appearance of its surroundings. For example, lions seem to disappear into the tall grass of the savanna, allowing them to sneak up on their prey without being seen. Squirrel fur is rough, uneven, and a grey-brown color. To a hawk or eagle looking for food, the squirrel looks like tree bark. Some insects have a hard shell that looks like dead leaves or branches.

Reptiles, amphibians, and fish are covered in scales. They produce colored pigments called biochromes. These pigments may be in skin cells or at deeper levels of the body. As some animals move from one background to another, they can quickly change color to match, making

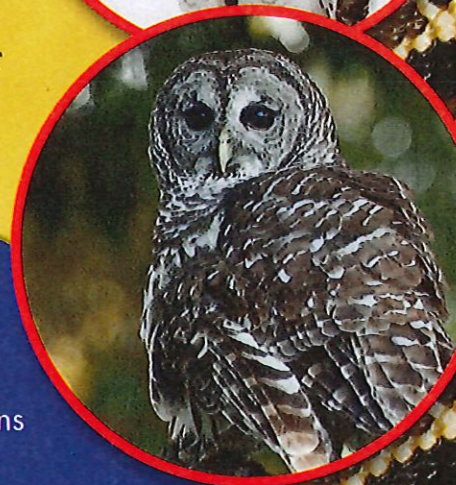


them nearly invisible. Also, some sea creatures, such as certain species of nudibranch (NOO duh brangk), change color by changing their diet. Their bodies take on the color of the coral they eat, so they become almost invisible. Imagine what it would be like to possess an ability like that!

What about birds, whose coloring is in their feathers? Birds can't change color quickly, but many birds do change color with the seasons. Varying temperatures or hours of daylight cause these birds to grow a new set of feathers as the background changes. For example, a bird that is mainly brown in summer may change to white in winter.

Camouflage abilities develop gradually through the process of natural selection. For example, if an individual animal's coloring closely matches its surroundings, predators are less likely to devour it. As a result, it survives to produce offspring. These offspring inherit the same coloration, so they also live long enough to pass it on. Eventually, the entire species can develop ideal coloration for survival in its environment.

The next time you're outside, look closely at your surroundings. You never know what might be looking back at you!



SLEUTH WORK

Gather Evidence Find information in the text that explains three different ways animals change colors.

Ask Questions List two questions about animal camouflage that you would like to ask an animal expert.

Make Your Case Suppose you were doing a presentation about this topic to first graders. What conclusion about animal camouflage would you want them to reach? Explain your reasoning, using details from the text to support your answer.