

## Science

### Genre

**Nonfiction Articles** present facts about real people, animals, things, places, or events.

### Text Features

A **Deck** is a short preview of a magazine article that is designed to grab readers' attention.

**Headings** are subtitles that break an article into different parts. They help readers organize information so it is easier to understand.

### Content Vocabulary

camouflage  
chameleon  
mimicry

# Animal Self-Defense

by *Elle Wainwright*

**I**f you were a wild animal about to become someone's dinner, what would you do? Run? Hide? Fight? Animals may do any of these things when they feel threatened. Nature provides them with special weapons of protection.

Wild animals live dangerous lives. While they hunt for food, they must be careful not to be caught by another animal. To help them stay alive, animals have developed adaptations.

## Hide and Seek

Some adaptations help animals hide. If an animal can remain unseen, it will be safe. Of course, an animal cannot really become invisible. However, it can seem to disappear by using **camouflage**. A baby deer can lie perfectly still in a bed of grasses and leaves. With its speckled fur, the little deer is almost invisible. A flounder swimming along the ocean shore is difficult to see. As it passes over sand, it turns a pale sandy color. When it swims over dark rocks, it turns dark. By changing its color, a flounder can avoid attacks by larger fish that would like to eat it. Some animals can hide without even moving! Both the **chameleon** and the octopus can quickly change their skin color and blend into the background.

Another kind of camouflage has to do with an animal's shape. Think of a bird hunting a butterfly for breakfast. The leaf butterfly has wings that resemble leaves. The bird is not looking for leaves to eat, so it will fly right past a leaf butterfly. A thornbug is another animal whose shape protects it from its enemies. Because thornbugs look like prickly thorns, their enemies stay away. There are also animals that change their shapes to hide. One inchworm stiffens up so that it is usually mistaken for a stick.

The octopus (above) and the chameleon (right) change color to blend into their surroundings.



## What a Stink!

No one can forget the smell of a skunk. Skunks use their odor for self-defense. Have you ever wondered how skunks produce their smell?

These small animals have a physical adaptation that helps them protect themselves. They have two grape-sized sacs under the skin below their tails that hold a strong-smelling liquid. Skunks can shoot this powerful liquid spray and hit a target accurately from up to ten feet away.

How do skunks decide that it's time to get the jets firing? The distance of an enemy plays a big part in the decision. Skunks don't see well. When an enemy comes closer than four feet to a skunk, the skunk finally sees it. Then watch out! First, the skunk freezes. Then, it points its

tail straight up as a warning. If the enemy doesn't go away, the skunk's tail bends over until it touches its back. Then the skunk turns around and squirts, stunning its enemy.

Skunks aren't the only animals that spray in self defense. Stinkbugs also spray a smelly liquid when threatened.

## Catch Me if You Can!

What happens when a bird is surprised by a person or other animal it considers a threat? The bird flies away. Birds are one of many creatures that avoid danger by moving faster than their enemies. Some animals, such as zebras, travel in herds. If predators appear, the whole herd quickly flees. Most of the herd escapes. Only the slowest zebras get caught.

a herd of zebras



## Ouch!

Would you touch a black-and-yellow-striped insect? Probably not because you know that yellow jackets can give you a painful sting.

Animals that eat insects also avoid yellow jackets. They avoid an insect called a syrphid (SUHR-fuhd) fly even though it is harmless. Why? The syrphid fly fools insect eaters because it looks like a stinging wasp. Looking like something else, especially something unpleasant, is called **mimicry**.

Animals have developed many other amazing ways to stay safe. Take a look at the animals you find in your neighborhood, even the insects. How do they defend themselves against other animals that want to attack them?



A syrphid fly (left) fools its enemies by looking like a wasp (below).



## Connect and Compare



1. How do the headings used in “Animal Self-Defense” engage the reader’s attention? **Headings**
2. Of the adaptations you have read about, which kind of adaptation would you choose for yourself and why? **Evaluate**
3. If Carlos in *Carlos and the Skunk* had read the article “Animal Self-Defense,” do you think he would have picked up the skunk? Why or why not? Explain your answer.

### Reading/Writing Across Texts



## Science Activity

Do research on an animal or insect that uses adaptations to survive. Write a magazine article describing how the animal defends itself against its enemies.



Find out more about animal defenses at [www.macmillanmh.com](http://www.macmillanmh.com)

# Write a Scientific Observation

## Writer's Craft

### Formal and Informal Language

When writers record scientific observations, they choose words that carefully describe what their five senses detect. Writers use **formal language** in scientific observations and avoid **informal language** that may show emotions.

When writing a scientific observation of a gray squirrel, I used formal language.

I chose exact words to describe the squirrel.

## The Gray Squirrel

by Adam P.

I sat in a lawn chair in my backyard to begin my observation of a gray squirrel. It was five o'clock in the afternoon. The squirrel I watched was about 20 inches long. It had a dark gray back with splotches of brown. Its stomach was a silver color. It had a thick, bushy tail.

The squirrel was running across the lawn when I first saw it. It paused about ten yards away from me and made a clicking sound. Then it sat up on its hind legs. It held an acorn in its front paws and gnawed on it. The squirrel heard me sneeze and quickly climbed up an oak tree and disappeared into a hole.

## Your Turn

Observe an animal of your choice. Write a paragraph in which you record your scientific observations. Remember to be precise and to use formal language in your descriptions. Choose words that describe what your senses detect. Use the writer's checklist to check your writing.



## Writer's Checklist

- Ideas and Content:** Did I observe the animal long enough to note plenty of details?
- Organization:** Did I present my observations in a logical order?
- Voice:** Did I use **formal language** and leave **informal language** and personal reactions out of my writing?
- Word Choice:** Did I choose precise words to describe my observations?
- Sentence Fluency:** Did my observations allow the reader to follow along at a steady pace?
- Conventions:** Did I use subject and object pronouns correctly? Did I proofread for spelling errors?