

Science

# *Animal Adaptations*



by Jennifer Earnshaw



## Before Reading

### Show What You Know

**Before** reading, look at the pictures in this book. What are some of the animals shown? What traits do the animals have that help them survive?

**Write** your answers on your own paper. Make a chart like the one below. Identify three animals. **Write** a trait that helps each animal survive.

Animal	Survival Trait	Type of Adaptation

**After** reading the book, **write** whether each trait is a structural adaptation or a behavioral adaptation.



## During Reading

### Reader Word Search

Search for the words below in the reader. Answer the following questions. **Write** your answers on your own paper.

pride

flock

colony

school


1. What do these four words have in common?
2. What animals from your reader are related to each of the words in the box?



## During Reading

### Do you understand?

**Write** your answers on your own paper.

1. What is the possible function of each of these adaptations?
  - sharp vision
  - thick fur
  - hard shell
2. List at least three examples of behavioral adaptations you read about in the book.
3. List at least three examples of ways animals of the same species work together to survive.
4.  **Write About Science**  
How are the adaptations of a shark and a lion similar?

# Animal Adaptations

by Jennifer Earnshaw



PEARSON

Glenview, Illinois  
Boston, Massachusetts  
Chandler, Arizona  
Upper Saddle River, New Jersey

## Picture Credits

Every effort has been made to secure permission and provide appropriate credit for photographic material. The publisher deeply regrets any omission and pledges to correct errors called to its attention in subsequent editions.

Unless otherwise acknowledged, all photographs are the property of Pearson Education, Inc.

Photo locators denoted as follows: Top (T), Center (C), Bottom (B), Left (L), Right (R), Background (Bkgd).

Opener: (Bkgd) ©Rand McMeins/Getty Images; 1 (C) ©Jan Carroll/Alamy; 2 (R) ©Audrey Snider-Bell/Shutterstock; 4 (B) Anup Shah/Thinkstock; 5 (B) Anup Shah/Thinkstock; 6 (B) ©Miao Liao/Shutterstock; 7 (BR) ©Marty Ellis/Shutterstock; 8 (BR) ©Jan Carroll/Alamy; 9 (T) ©William Bradberry/Shutterstock; 10 (C) ©Andy Murch/Tom Stack & Associates/Alamy Images, (B) ©Westend61 GmbH/Alamy; 11 (C) ©Brian J. Skerry/Getty Images; 12 (T) ©Christopher Tan Teck Hean/Shutterstock; 13 (B) ©pixelman/Shutterstock; 14 (BL) ©Dave Watts/Alamy Images, (BR) ©Jason Edwards/Getty Images; 15 (T) ©Dave Watts/Alamy Images.

FP3 (C) ©National Geographic Image Collection/Alamy; FP6 (B) ©Gert Johannes Jacobus Vrey/Shutterstock.

**Copyright © 2012 Pearson Education, Inc., or its affiliates.** All Rights Reserved. Printed in the United States of America. This publication is protected by copyright, and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise. For information regarding permissions, write to Pearson Curriculum Group Rights & Permissions, One Lake Street, Upper Saddle River, New Jersey 07458.

ISBN-13: 978-0-328-64451-3

ISBN-10: 0-328-64451-X

Pearson® is a trademark, in the U.S. and/or other countries, of Pearson Education, Inc., or its affiliates.

1 2 3 4 5 6 7 8 9 10 VOFL 14 13 12 11 10

# What You Already Know

Animals have adaptations for survival. An adaptation is a trait that allows an organism to survive better in its environment. Adaptations protect animals from predators as well as from severe weather, starvation, and other threats.

Useful traits in the body parts of an animal are called structural adaptations. Behavioral adaptations are behaviors that are inherited. Behavioral adaptations are sometimes called instincts. Instincts do not have to be learned.

Animal species develop adaptations through the process of natural selection. The strongest and healthiest animals are the ones most likely to survive and have offspring. Those offspring are likely to inherit the useful adaptations of their parents. Over time, the adaptations that made a group of animals strong and healthy become common throughout the population. If a species does not adapt, it will become extinct.

The feet of the gecko are structural adaptations. They help the gecko climb trees to find food and escape predators.



# Lions

The African lion can be found mostly in the grasslands of Africa. It is a fierce predator. Many of its adaptations help it hunt.

The most recognizable structural adaptation of the male lion is his thick mane. The mane helps the lion look bigger and protects his neck from an attack. The rest of the lion's body is covered in yellow-brown fur. This helps him hide in the similarly colored grass. Lions are nocturnal, or most active at night. At night they are able to see six times as clearly as humans can.

**Lions are very strong but spend a lot of time resting.**



Lions are social cats. They live in groups called prides. In a pride, females do most of the hunting. They work together to catch prey, and they share it with the pride. Males protect the cubs while the females hunt.

While the lion is adapted to be a strong predator, it must rest to save the energy it needs to hunt. Lions can spend up to 20 hours a day resting. During this time, the lion cubs play. Cubs learn to wrestle and pounce as they play. These behaviors later help them hunt and reproduce, improving their chances of survival.

**Lions learn much of their behavior from their pride.**



# Geese

Canada geese live primarily in Canada and the United States. In areas where lakes and rivers freeze, the geese are unable to swim and find food. The geese migrate, or move, together south to warmer places where food is available. Successful migration is the result of physical and behavioral adaptations.

The flock changes leaders during flight to give the lead bird a rest.

A flock of geese migrates along the same route every year. The group travels in a V-shaped formation. Geese use less energy in this formation, so they can fly longer distances.

The Canada goose has many structural adaptations to help it feed. Its webbed feet help it swim efficiently as it searches for food. The goose's long neck enables it to search below the surface of the water. Its bill has jagged edges for straining water and a spiny tongue for sifting through food. The front of the goose's bill can cut grass, seaweed, or hard kernels.

If a goose is threatened, it opens its wings as widely as possible. This makes it look bigger to predators.



The goose's feathers help hold in heat to keep the goose warm.



# Sea Turtles

After hatching under a sand dune, a young sea turtle knows to start digging upward through the sand. It will reach the surface of the sand in three to seven days. The hatchling instinctively knows to wait for nightfall before crossing the beach to the water. Upon reaching the ocean, it will swim quickly to reach deeper water, where there are fewer predators. Every move of the young sea turtle is a behavioral adaptation. The information is contained in its genes. Parents pass these instincts on to their young.

After they reach the ocean, young sea turtles dive straight downward if anything, even a plane, flies overhead. This is a behavioral adaptation to move away from birds that could eat them.



The colors of the sea turtle's shell make it hard to see in the ocean.

Sea turtles also have many structural adaptations for survival. Their front flippers are long and paddle-shaped for swimming. A sea turtle moves its front flippers with powerful, wing-like strokes. The flippers are flat and can be rotated so that the turtle can swim in the water and crawl on land.

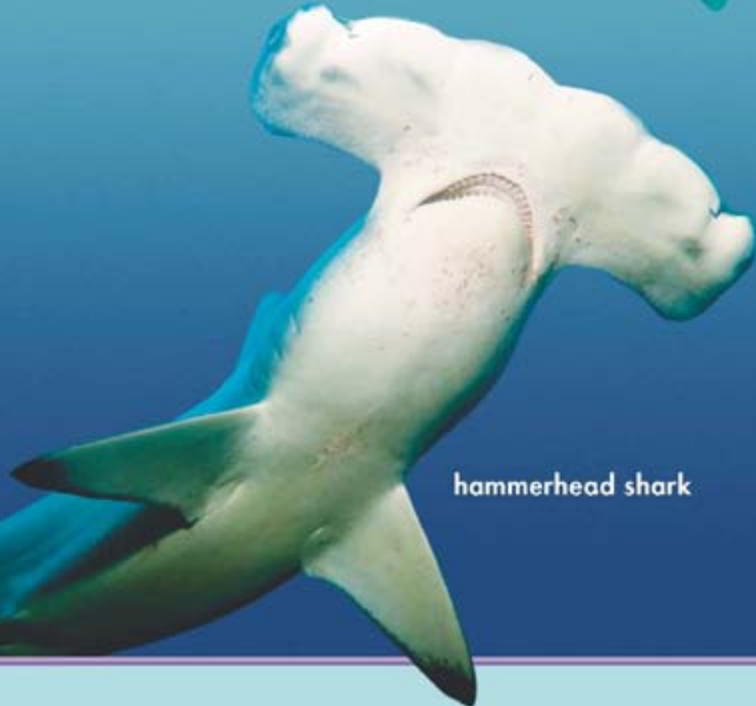
Sea turtles have hard shells that protect their soft bodies. Unlike many other turtles, though, the sea turtle cannot pull its head or limbs into its shell. This adaptation helps the turtle glide better in the water.

# Sharks

Sharks have many structural adaptations for survival in the ocean. A shark has fins and a sleek body that help it glide through water. This body shape requires the shark to use only a little energy to swim.



mako shark



hammerhead shark

Sharks also have many sharp teeth. If a shark breaks a tooth while eating, a new one grows in its place. Some sharks have different adaptations. For example, the hammerhead shark has a hammer-shaped head. The shape enables the shark to look on its left and right for food. The mako shark is very fast and is able to jump out of the water to catch its prey.

Most sharks live alone. There are some exceptions, though. Hammerhead sharks live in schools for protection. The large whale shark attracts many other fish. Some swim nearby for protection, and some eat the whale shark's leftovers. Thresher sharks work together to catch fish. They use their tails to round up schools of fish.

whale shark





Different ants have different jobs in the ant colony.  
Worker ants get food for the colony.

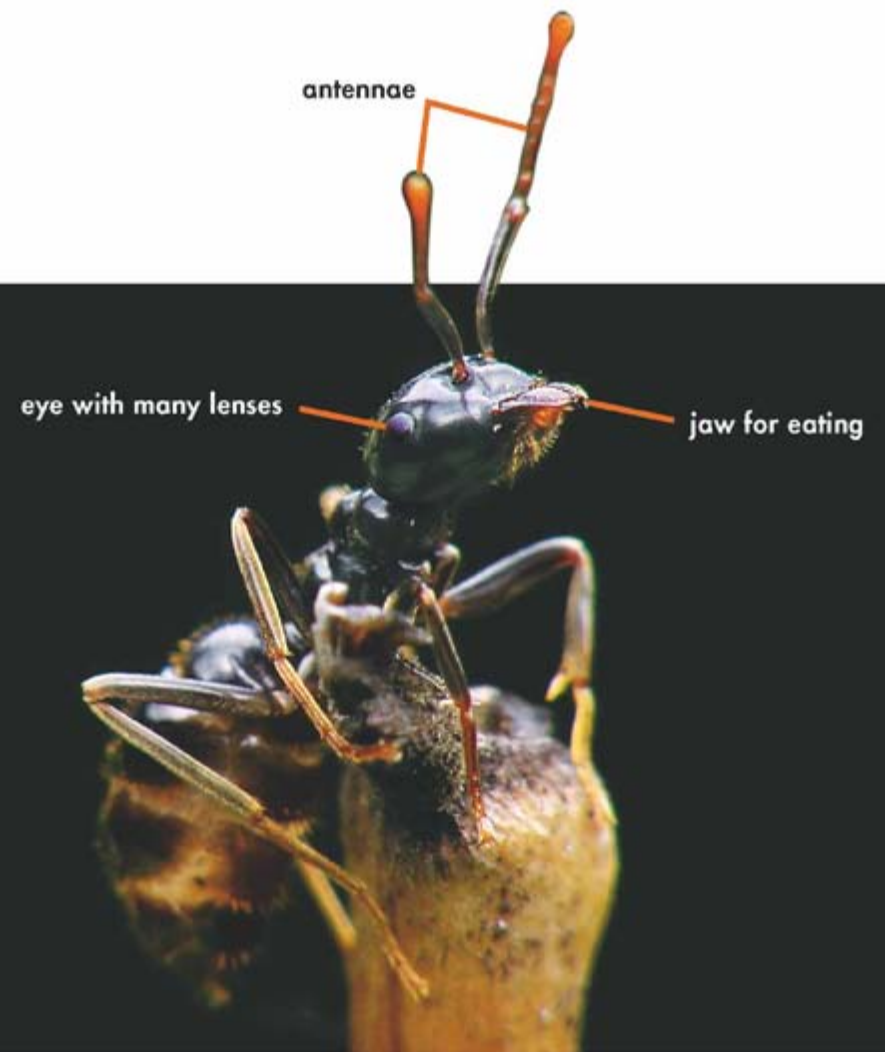
## Ants

Ants have been living on Earth for more than 100 million years and can be found almost everywhere on the planet. Ants have adapted as their environments have changed over time.

Ants live in large colonies, or groups of the same kind of organism living together. Some colonies consist of millions of ants. Ants communicate by touching each other with their antennae. They also leave scent trails for other ants to follow.

Ants have jaws, eyes, and antennae on their heads. Their eyes are made up of many lenses. The lenses help the ants see movement very well. The antennae help the ant smell, touch, taste, and hear.

Ants build many types of homes. Some ants build simple mounds out of dirt or sand. Others add small sticks for protection from rain. Army ants live in temporary nests that they make by linking together their own bodies! An ant knows by instinct how to build the right home for its colony.



# Platypuses

The platypus is an animal with an unusual combination of adaptations. It has a bill and webbed feet like a duck's. It also has a broad, flat tail like a beaver's and a sleek, furred body like an otter's. The thick fur repels water. Each of the other structural adaptations helps the duckbill platypus survive in water too.

The platypus has a clumsy walk on land. The webbing on its feet pulls back and uncovers claws that help the platypus move on the ground. The claws also help the platypus build dirt burrows on the shore. The platypus is one of only two mammals that lay eggs.



The male platypus has sharp, venomous stingers on its heels for protection.



A platypus can stay underwater for almost two minutes in search of food.

The platypus glides through the water, looking for food. It paddles with its front webbed feet and steers with its back feet and tail. Extra skin covers its eyes and ears. Its nostrils close to keep out water. These adaptations help the platypus stay underwater.

The platypus hunts underwater. By instinct, it knows to scoop up small rocks with the worms, insect larvae, and shellfish it catches. The platypus stores the rocks and food in its cheek pouches. It uses the small rocks to mash up food after it surfaces.

# Glossary


<b>colony</b>	a group of the same kind of organism living together
<b>flock</b>	a group of birds or animals living together
<b>hatchling</b>	an animal newly hatched from an egg, such as a baby sea turtle
<b>instinct</b>	a behavioral adaptation that does not have to be learned
<b>migrate</b>	to move to a new place
<b>offspring</b>	a new animal that is a result of reproduction
<b>pride</b>	a group of lions living together
<b>school</b>	a group of fish living together
<b>structural adaptation</b>	a useful trait of the body parts of an animal



## After Reading

### Did you understand?

**Write** your answers on your own paper.

1. What are instincts? How does an animal get them?
2. Why is it important that a platypus picks up small rocks with its food?
3. Give **one** example of how a newborn sea turtle relies on instinct to survive its first day out of the sand.
4.  **Write About Science**  
Why might it help a flock of geese to follow the same path every year?





## After Reading

### Crocodile Adaptations

Look at the picture of the crocodile. Crocodiles have lived on Earth for 80 million years. Some relatives of the crocodile lived with the dinosaurs! The crocodile has adapted over time to survive.

Learn more about the adaptations of the crocodile. What are two physical adaptations crocodiles have to survive? What is one behavioral adaptation of a crocodile?

**Tell** what you learned. Share your answers with a partner.



## Turtle Totals

Read the information about hatching turtles. Then read the questions. **Write** your answers on your own paper. Show your work.



**Night 1:** 24 hatched, 16 reached the ocean

**Night 2:** 12 reached the ocean, though twice as many hatched


**Night 3:** 25 hatched, 15 reached the ocean

1. How many turtles hatched in all?
2. How many turtles made the trip to the ocean in all?
3. Make a bar graph. Show both how many turtles hatched and made it to the ocean each day.



Genre	Comprehension Skill	Text Features	Science Content
Nonfiction	Compare and Contrast	<ul style="list-style-type: none"> <li>• Captions</li> <li>• Labels</li> <li>• Glossary</li> </ul>	Animal Adaptations

## Interactive Science 5


 ELL Reading Support

[pearsonschool.com](http://pearsonschool.com)


ISBN-13: 978-0-328-64451-3

ISBN-10: 0-328-64451-X



9 780328 644513



9 0000 &gt;