

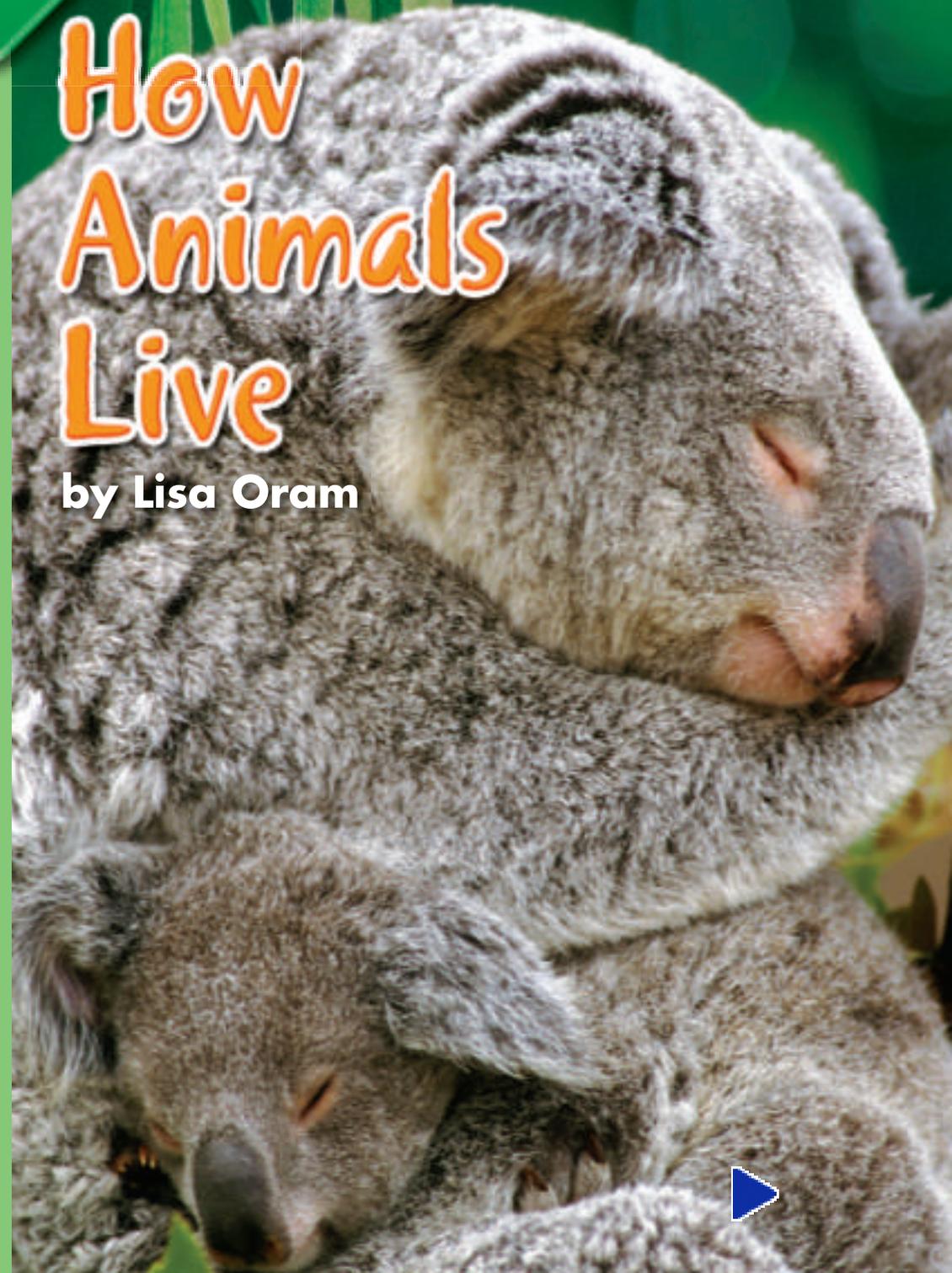
Science

Science

Life Science

How Animals Live

by Lisa Oram



Genre	Comprehension Skill	Text Features	Science Content
Nonfiction	Sequence	<ul style="list-style-type: none"> • Captions • Glossary 	Animals

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Vocabulary

adaptation

hibernate

inherited

larva

migrate

pupa

trait

vertebrate

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How are animals grouped?

What All Animals Need

Almost all animals need water, food, oxygen, and shelter to live.

Animals get water from drinking or eating food. They get food by eating plants or other animals.



Animals get oxygen from air or water. Many land animals breathe with lungs. Many water animals breathe with gills.

Animals need shelter. Some animals find or build shelter. Other animals grow hard shells to protect themselves.





Ways Of Grouping Animals

Animals can be grouped by their traits. A **trait** is the way an animal looks or acts. Animals get traits from their parents. Traits can be used to group animals.

Animals with Backbones

Animals with backbones belong to one group. A **vertebrate** is an animal with a backbone. Vertebrates' backbones grow as they get older. Fish, snakes, and cats are all vertebrates. Vertebrates can look very different.

This lynx is a vertebrate.



Fish are vertebrates that live in water. Fish have scaly skin. They breathe through gills.

Amphibians are vertebrates. They can live in water. They can also live on land. Amphibians breathe through gills when they are young. They also get oxygen through their skin. As they grow, they develop lungs. Toads and frogs are amphibians.

A frog is an amphibian.



Fish are vertebrates.





Reptiles are vertebrates with scaly skin. Crocodiles and alligators are reptiles. They breathe through lungs. Snakes, lizards, and turtles are reptiles too.

Birds are vertebrates that breathe through lungs. They have bills instead of teeth. Wings and light bones help most birds fly. Their feathers keep them warm.



These owls and this snake are both vertebrates. How are they different?



Mammals are vertebrates. Mammals have hair on their bodies. This keeps them warm. They breathe through lungs. Mammals feed milk to their young.

These koalas are mammals.





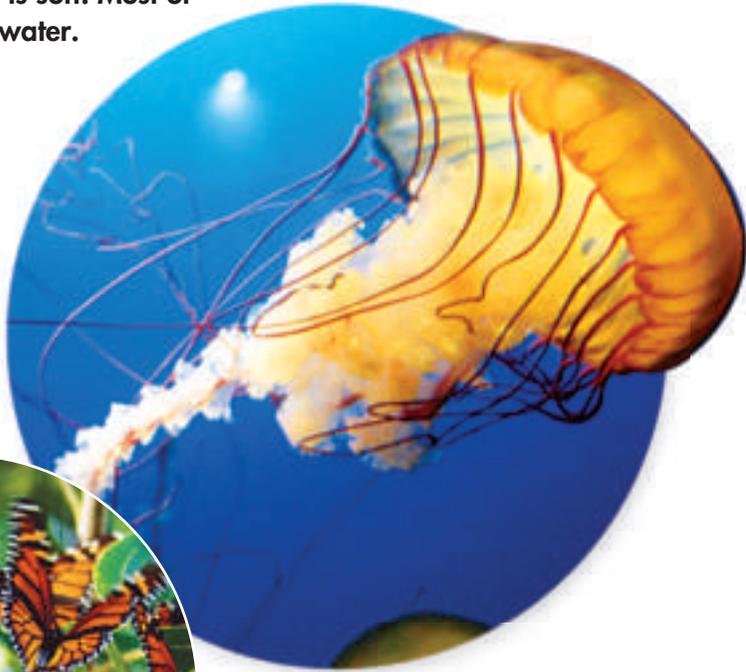
Animals Without Backbones

Most animals do not have backbones. These animals are called invertebrates.

Most invertebrates do not grow as big as vertebrates. Invertebrates make up most of the animals on Earth.



The body of this sea jelly is soft. Most of it is water.



A butterfly is an invertebrate.



There are many more invertebrates than vertebrates. Sea jellies, butterflies, and clams are all invertebrates.

Worms are invertebrates. They have long, soft bodies. Worms do not have legs. They slide and wiggle through the ground to move. Earthworms live in soil and keep it healthy.

Insects, spiders, and crabs are arthropods. Arthropods are the largest group of invertebrates. They have skeletons on the outsides of their bodies. They also have legs with joints.



This snail is a mollusk. Many mollusks have hard shells and soft bodies.



Does this worm have a backbone?



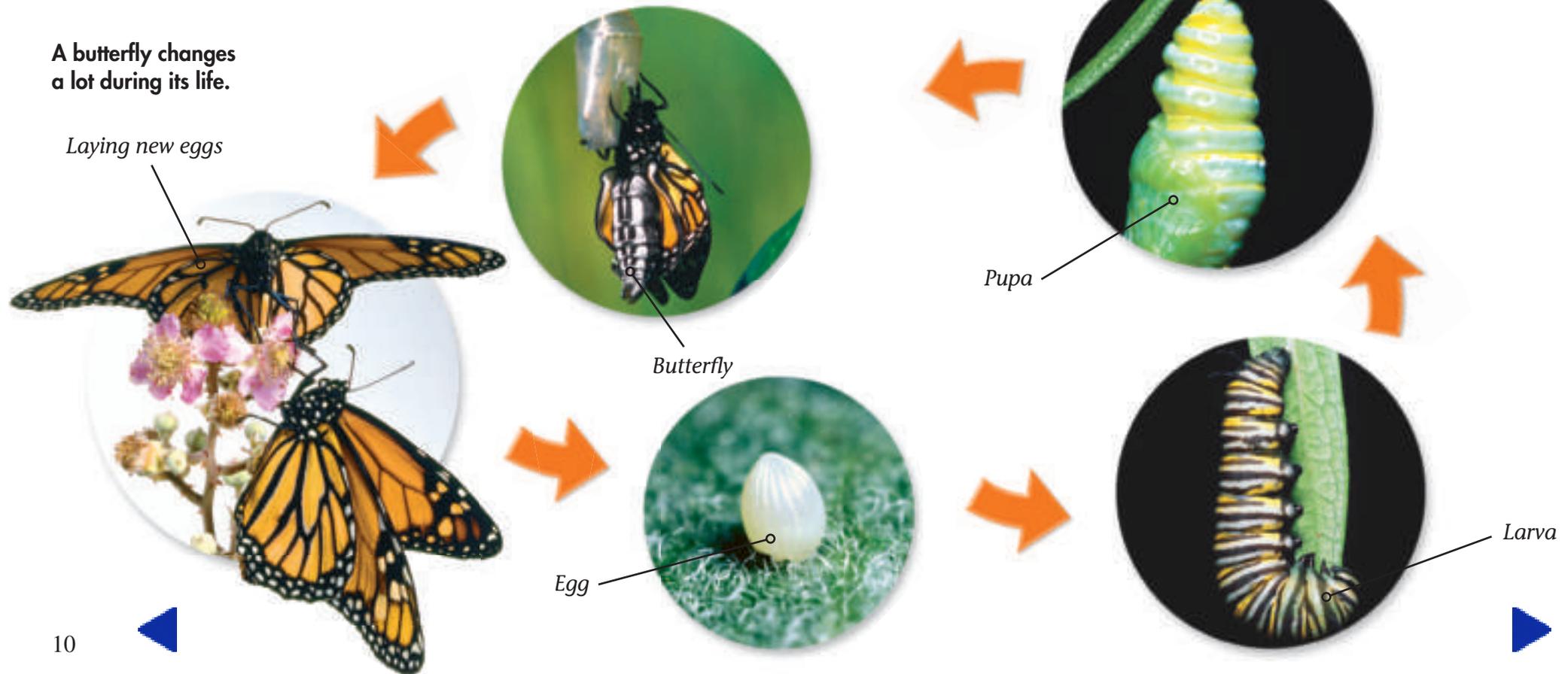


How do animals grow and change?

Life Cycles

All animals grow and change over time. These changes are called a life cycle. Animals start as an egg. Some animals lay their eggs. The eggs hatch when the young animals are ready. Other animals grow from eggs inside their mother's body. Those mothers give birth to live young. Some animals begin life looking like their parents. Others look different.

A butterfly changes a lot during its life.



A Butterfly's Life Cycle

A butterfly begins life as an egg. A caterpillar, or **larva**, hatches from the egg. A larva is a young insect. The caterpillar eats and grows. Soon it spins a hard covering, or chrysalis, around itself. The larva is now a **pupa**. It grows and changes. It becomes an adult butterfly. The butterfly breaks open the chrysalis and crawls out. Butterflies lay eggs. After laying eggs, butterflies die. Then the life cycle of the butterfly is complete.



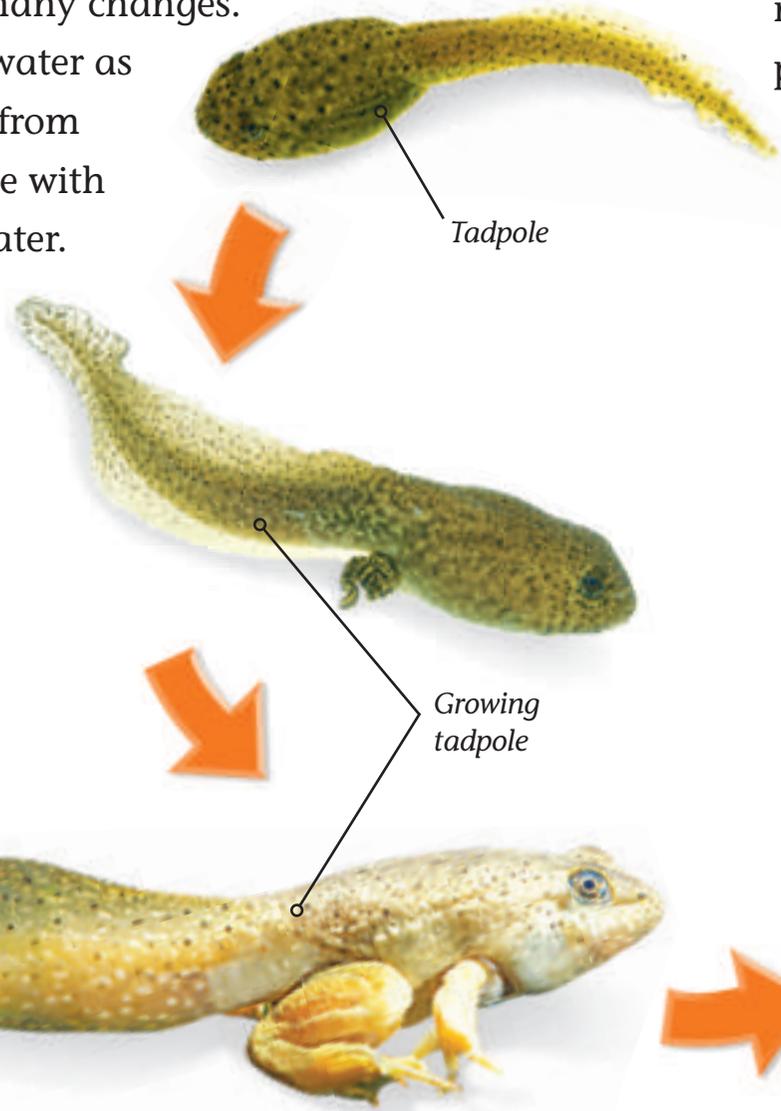
Some Vertebrate Life Cycles

Vertebrate life cycles can be different. Some vertebrates go through many changes as they grow. Others hardly change at all.

A Frog's Life Cycle

Frogs go through many changes. They start life in the water as eggs. Tadpoles hatch from the eggs. They breathe with gills and live underwater. The tadpole grows lungs and legs, and turns into an adult. Most adult frogs live near water.

A frog must change a lot before it looks like its parents.

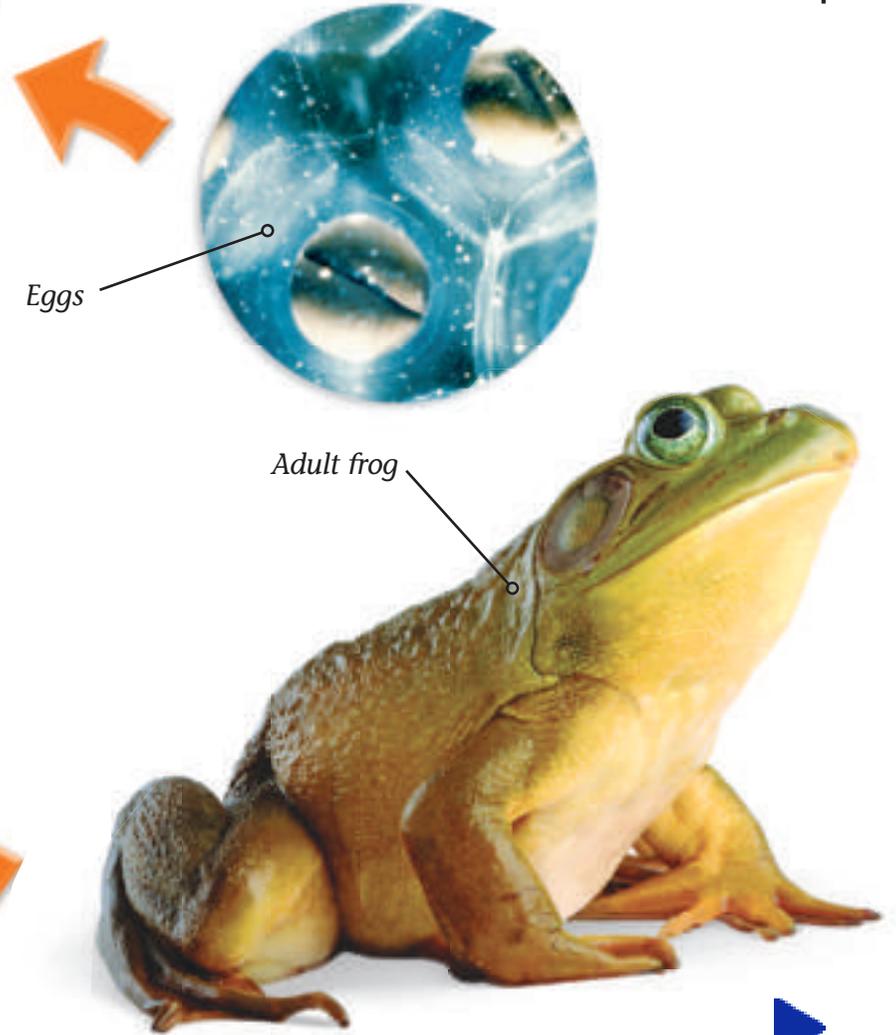


A Mammal's Life Cycle

Most mammals develop inside their mother's body. Young mammals drink milk from their mothers. They have either hair or fur. Many young mammals look a lot like their parents soon after they are born.



This panda cub looks a lot like its parents.





How do adaptations help animals?

Adaptations

An **adaptation** is a trait that helps an animal meet its needs in the place where it lives. Adaptations are **inherited**, or passed on, from parents to their young.

A pelican is a bird that lives near water. It needs to swim to find food. A pelican's webbed feet help it swim. Its webbed feet are an adaptation.

A pelican has a special bill. It acts like a net to help the pelican catch fish.



Adaptations for Getting Food

Animals have many adaptations for getting food. An eagle's feet can hold food while it flies.

Deer have sharp front teeth to help cut plants. They also have flat back teeth to help grind plants.

A cardinal eats seeds. It uses its short, strong bill to break open the seeds. Each adaptation fits an animal's needs.



Cardinals break open seeds.



Flamingos filter food from the water.



Warblers pick out insects.



These birds all have different bills. They all eat something different.





Adaptations for Protection

All animals need ways to stay safe. Some animals can quickly run away from enemies.

Other animals are colored in a way that makes them hard to see. This is called camouflage. Camouflage helps some animals stay alive.



Arctic fox



Crab spider

Fish



Do these animals have camouflage? Yes! They are hard to see.



Some animals have spikes or horns for protection. The porcupine has hundreds of sharp quills. This adaptation is called armor.

Other animals mimic, or look like, a different animal. The king snake mimics the coral snake, which is poisonous. Other animals then avoid the king snake.



Coral snake



King snake

How have these animals protected themselves?



Cassowary





Behaviors That Help Animals

Behaviors are things that animals do. Some behaviors are inherited. Other behaviors that animals need are learned. These behaviors can be learned from parents or other animals. The ability to learn is inherited, however.



These geese are migrating.



These bats are hibernating.



Instincts

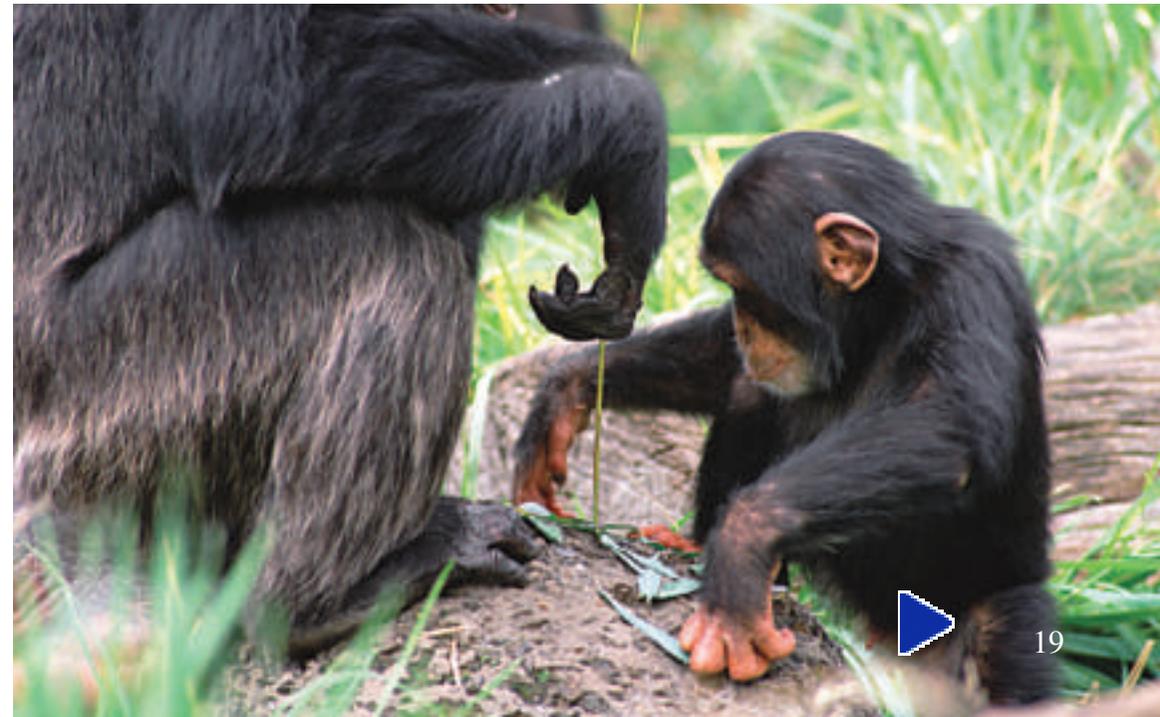
A behavior an animal is born with is an instinct. Instincts help some animals survive during winter. Many animals know to **migrate**, or move long distances, to find more food.

Other animals know to **hibernate** or sleep, during winter. Their bodies slow down so they don't need much food.

Learning

Animals learn some behaviors by watching parents or other animals. Adult chimpanzees show their young how to find and get food. The young learn which foods are good to eat.

This young chimpanzee is learning how to find food.





How are animals from the past like today's animals?

Animals That Lived Long Ago

Signs of past life are called fossils. A fossil can be an animal track or print hardened into rock. This is called a fossil mold. A fossil mold can be filled with rock. Then it is called a cast.



Spider trapped in amber



Fossil cast of a dinosaur skull



Ancient Insects

Tiny insects caught in sticky tree sap have become fossils. Fossils of larger animals, such as saber-toothed tigers, have been found in tar pits.



Trilobite fossil cast



Bird-like dinosaur fossil cast



We can learn about animals from the past by studying fossils, fossil molds, and fossil casts.





How Animals Today Compare to Those of Long Ago

Fossils help people learn about animals and plants that lived long ago. They help us tell what Earth was like and how it has changed. Some animals that lived in the past are extinct. That means they no longer live on Earth.

Animals have found ways to live in many places on Earth. Their adaptations keep them alive. Animals have found incredible ways to keep living!

This T. rex dinosaur is extinct.



This collared lizard looks like dinosaurs from long ago. But it is much smaller.



Glossary

adaptation	a trait that helps an animal survive in the place where it lives
hibernate	to spend the winter in a way that doesn't require a lot of food
inherited	passed on from parents to their young
larva	the early form of an insect
migrate	to move from one region to another when the seasons change
pupa	the stage of an insect's life between larva and adult
trait	the way an animal looks or acts
vertebrate	an animal with a backbone

What did you learn?

1. What are animals that do not have backbones called?
2. Name two animals that are vertebrates.
3. What does camouflage do?
4. **Writing in Science** You have read about behaviors that help animals. Write to explain how an animal's instincts and learned behaviors affect its survival. Use examples from the book as you write.
5.  **Sequence** Name the four steps of a butterfly's life cycle in order.

