

# Kinds of Animals and How They Live

I'm sure you've noticed there are a LOT of different animals in the world. From the largest whale to the smallest insect, you can find animals almost anywhere you look. In order to study them, scientists group animals by their characteristics, what they have in common. For example, think about your dog and your cat. If you take a close look at them, you'll see they have many things in common. They both give birth to live young instead of laying eggs. This makes them both *mammals*. They both have a backbone, which makes them *vertebrates*. Let's take a closer look at some of the terms scientists use to group animals by what they have in common and find out more about some of these incredible creatures.



## Vertebrates

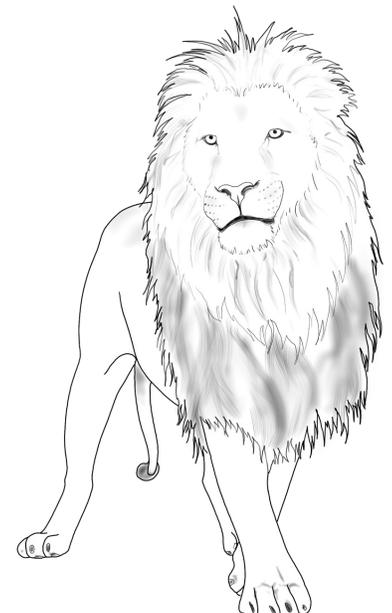
The first group of animals we're going to study are **vertebrates**. We already mentioned that vertebrates are animals that have a backbone. They also have a cranium, which is a case for their brain.

Most vertebrates have backbones (or spinal columns) made up of a series of bones called vertebrae, but some animals, like sharks, have vertebrae made of cartilage instead.

All vertebrates are bilaterally symmetrical, which is just a fancy way of saying their left side and their right side are mirror images of each other. You can see that with the first vertebrate we'll study, the **lion**. If you draw a line down the middle of a lion, each side has two legs and feet, one eye, one nostril, etc.

Lions are mammals that need a lot of space to move around and prefer woodlands and grassy plains. They also need lots of prey, such as deer, antelope, and zebras. Only a few hundred lions live in Asia, in a protected area of India. The rest roam about Africa, mostly in protected areas such as national parks or reserves, where they are safe from hunters. A male lion often weighs between 350-400 pounds (159-180 kilograms) but can weigh as much as 560 pounds (254 kilograms). They are usually about 9 feet (3 meters) long and 4 feet (120 centimeters) high at the shoulder.

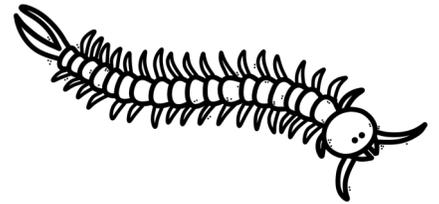
## Lion



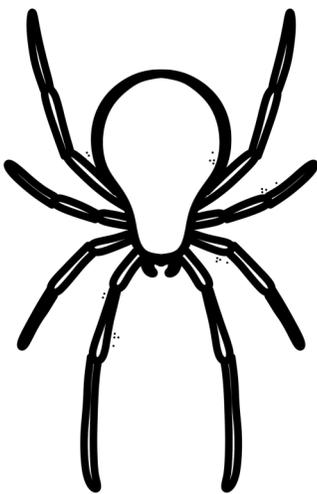
# Invertebrates

As you have probably guessed, since a vertebrate is an animal with a backbone, an invertebrate is an animal that does not have a backbone. Invertebrate animals actually make up about 95% of all animals in the world! How can that be? Scientists estimate there are as many as 10 million kinds of invertebrates or more in the world. Invertebrates include insects, spiders, worms, crabs, shrimp, lobster, jellyfish, sponges, starfish, snails, and many other types of creatures. We'll take a look at just a few of them.

A **centipede** is an invertebrate that also belongs to the arthropod group of animals, which we'll take a closer look at later. Centipedes are known for their many, many legs. Even though the first part of the centipede's name means 100, not all centipedes actually have 100 legs. Centipedes have bodies that are divided into many segments, and each segment has a pair of legs except the last one. Some centipedes only have 15 segments (or 30 legs), while some could have more than 180 segments (or 360 legs)!



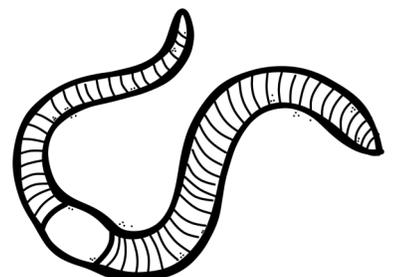
Centipede



The **spider** is an animal we are all familiar with. Like the centipede, it belongs to the invertebrate animal group as well as the arthropods. Even though we often refer to spiders as insects, that's not technically true. In science, an insect has six legs and usually has wings and antennae. Spiders have eight legs, and they don't have wings or antennae. There are thousands of different types of spiders, and they live in most parts of the world. Many of them also spin beautiful silk webs they use to capture food.

Spider

The **earthworm** has two types of muscles, some that go around its body that it uses to shrink up skinny or spread out, and muscles it can use to shrink up short or stretch out long. It does not have eyes, ears, or lungs but breathes through its skin. Its body is like two tubes, one on the inside that digests its food, and one on the outside of its body that we can see.

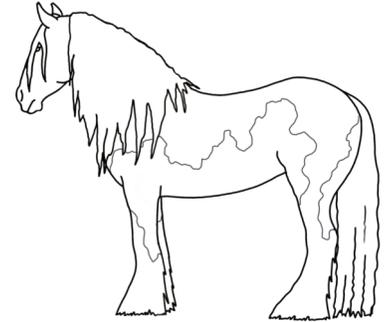


Earthworm

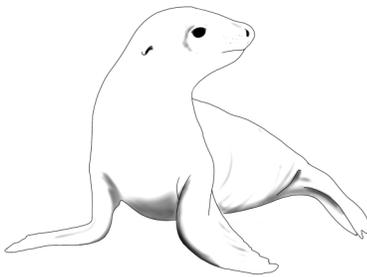
# Mammals

**Mammals** are vertebrates that live all over the world. There are more than 4,500 different kinds of mammals, but they have some things in common. Most mammals give birth to live young, though two mammals—the platypus and the echidna—are mammals that lay eggs. All mammals have hair, and they are all warm-blooded. Many of the animals we interact with everyday, such as dogs and cats, are mammals, and so are lions, cows, elephants, seals, whales, and even bats.

**Horses** are mammals with characteristics that make them very good workers and runners. Their long, strong legs give them speed to run and strength to pull. Their wide nostrils help them breathe all the air they need to keep their muscles working so hard. Today, there are more than 150 breeds and types of horses, including ponies. Some are quite small, while the largest breed of horse, the shire, can be more than 68 inches (173 centimeters) tall and weigh more than 2,000 pounds (910 kilograms).



Horse



Seal

**Seals** are a type of mammal that usually live in the ocean. They have flippers that make them excellent swimmers, and most eat fish and other small ocean creatures. Fur seals have thick coats of fur to keep them warm while many other types of seals use a thick layer of blubber to keep out the cold.

**Bats** are the only mammals that can fly. People often think bats are blind, but that's not true. All bats can see, and some can actually see very well. Bats also use echolocation to sense their surroundings. Echolocation is bouncing sounds off of things and collecting information from the echoes that bounce back. There are more than 1,000 different types of bats in the world, and they live almost everywhere except the arctic and Antarctica. Many types of bats are extremely helpful to humans because they eat large amounts of insects and help keep the insect population under control.



Bat

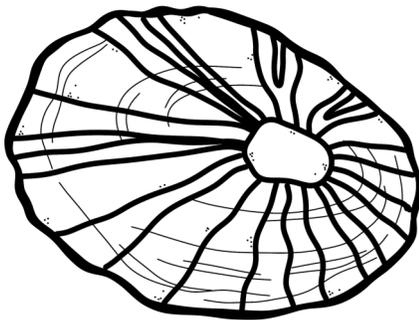
# Mollusks

**Mollusks** are soft-bodied invertebrates that don't have any bones at all. Some of them have a hard outer shell that helps protect them. Some have thin shells inside their bodies instead. They have tentacles that help them learn about their surroundings. Mollusks include snails, slugs, clams, octopuses, squids, and other animals.

**Cuttlefish** are mollusks with an inner shell called a cuttlebone. They have eight short arms and two long tentacles. They use a fin to swim and change direction. They also squeeze water through a funnel in their bodies to help propel them forward. If you don't measure the arms and tentacles, cuttlefish are usually about 2 to 20 inches (5 to 50 centimeters) long.



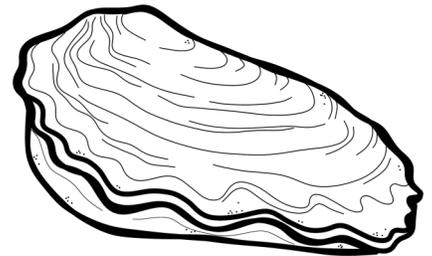
Cuttlefish



Limpet

**Limpets** need their hard shells to protect them from animals like crabs and birds that would like to eat them. They are usually less than 3 inches (8 centimeters) long, though one kind can grow bigger. The limpet's soft body moves by using a muscle called a foot that holds onto rocks like a suction cup. Limpets have long tongues they use to eat seaweed off of the rocks.

**Oysters** are invertebrates and mollusks people have known about for thousands of years. Their meat is a popular seafood, and some types of oysters produce precious pearls that are treasured around the world. An oyster's shell is made of two parts called valves that are held together by an elastic ligament that works like a hinge. A special muscle holds the shell opened or closed, and when it needs to, an oyster can close its shell tight and live without opening it again for weeks.



Oyster