

GROUPING OF ANIMALS

Animals can be **classified**, or grouped together, by the things they have in common, such as how they act, where they live, or how they look. This is one way scientists organize what they are studying.

Scientists separate animals into two main groups related to whether the animal has a backbone in its body or not. Those animals **with backbones are part of the vertebrates group**. Those animals **without a central backbone are invertebrates**.

Vertebrates

There are **five main groups of vertebrates** based on specific animal traits and characteristics. Those groups include fish, birds, reptiles, amphibians, and mammals.



Fish are vertebrates that live their whole lives in water. Fish breathe oxygen through their gills and have scales on their bodies.



Birds are also a group of vertebrates. A bird has feathers, wings, and a beak. Birds breathe oxygen through their lungs.



Reptiles are also a group of vertebrates. Snakes, crocodiles, and turtles are all examples of reptiles.

Reptiles breathe through their lungs.



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Another group of vertebrates are amphibians. Frogs and toads. Amphibians breathe through their gills in water at a very young age. As an amphibian grows and begins to live on land, it develops lungs in order to breathe on land.

Dogs and cats start off breathing through their lungs.



Mammals are also vertebrates. Mammals are animals that have hair, breathe through their lungs, and feed their babies milk from the mother. Examples of mammals are dogs, cats, and humans.

Lesson Checkpoint: What are the five main groups of vertebrates?

Invertebrates

Now for the animals without backbones. **Invertebrates** are animals that do not have a backbone.



PREVIEW

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Most animals are invertebrates. For example, a fly is an invertebrate. Isn't it amazing that invertebrates outnumber vertebrates so much?

...der is an example of an invertebrate. Insects, such as flies, are invertebrates. They have fewer than 100,000 species.

Invertebrates do not have a backbone. The bones and backbone of a vertebrate helps support its body, which means a vertebrate can be larger. Invertebrates have liquid sacs or shells that serve as support for their bodies.

Lesson Checkpoint: What is an invertebrate?

Four Kinds of Invertebrates

There are four major kinds of **invertebrates**: sea jellies, arthropods, worms, and mollusks.

Sea jellies have soft bodies, they live in the ocean, and they have body parts that can sting. Jellyfish are examples of sea jellies.



Arthropods' skeletons are on the outside of their bodies. Arthropod bodies are made up of several parts and sections. An example of an arthropod is a beetle.



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Worms are all underground.



Mollusks also have soft bodies, but most mollusks have shells to protect and support their soft bodies. An example of a mollusk is a snail.



Lesson Checkpoint:

What are the four major kinds of invertebrates?