

INVERTEBRATES: ANIMALS WITHOUT BACKBONES

Most Animals are Invertebrates!

Animals are classified into groups so that scientists around the world can study them easier. Scientists **classify** animals into two major groups, **vertebrates and invertebrates**.

Invertebrates are animals that do not have a backbone. Many invertebrates do **not** have hard body parts either, though some do.



Scientists classify **invertebrates** into broad groups called **phyla**, such as cnidarians, etc. are classified into

There are many organisms living

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MOST of the

Sponges

Sponges are invertebrates that are simple organisms. Sponges live **attached** to a fixed location in the water. Most sponges live in salt water. Sponges have holes, called **pores**, which allow water to flow through them. They get their food from the water that flows through them.



Lesson Checkpoint:
Where do most sponges live?

Cnidarians

Cnidarians include hydra, jelly fish, and sea anemones. Cnidarians have several things they have in common with each other. One characteristic they have in common is that they all have stinging cells. Cnidarians include **hydra**, which are organisms that live in freshwater. **Cnidarians** also include jellyfish. **Jellyfish** have soft bodies and long stinging tentacles that are poisonous.



Sea anemones look like flowers in the sea and live attached to objects in the sea.



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Lesson Checkpoint:

What is one characteristic that cnidarians have in common?

Worms

Worms are also invertebrates. Worms have segmented bodies, which means they have bodies that are divided into sections. An example of a **flatworm** is a **tapeworm**, which is a type of worm that lives off another living thing. **Leeches** are also classified as invertebrates and have segmented bodies.



Lesson Checkpoint:
How does a tapeworm live?

Mollusks

Snail and clams are types of mollusks. **Mollusks** have soft bodies and most mollusks have shells.

Mollusks, like a snail, move by using a structure called a **foot**. This foot produces **slime** that helps the snail move easier along the ground.



Lesson Checkpoint:
What is an example of a mollusk?

Echinoderms

Echinoderms include starfish and sea urchins.

Echinoderms live in salt water.



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Lesson Checkpoint:
Where does an echinoderm live?

Arthropods

Arthropods are the largest animal phylum. Two characteristics of arthropods are that they have segmented bodies and jointed legs.



Spiders

Spiders are NOT **insects**. Spiders only have two main body parts and eight legs. Insects have **THREE** main body parts and **SIX** legs. **Arachnids** are spiders. They have an **exoskeleton** and jointed legs.



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Centipedes

Other invertebrates include centipedes and millipedes both have hard exoskeletons, which is their hard outer body.

Crustaceans

Speaking of having a hard outside, **crustaceans** are invertebrates and include **crabs and lobsters**, which have hard external shells.



Lesson Checkpoint:
Are spiders insects? Why or why not?

Coral Reefs

Coral reefs are a mass or ridge of living coral that need sunshine and warm waters to survive. Coral reefs live in warm, shallow sea waters. Coral reefs provide a **protective place to live** for a large variety of marine life.

Lesson Checkpoint:
What do coral reefs provide?



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