

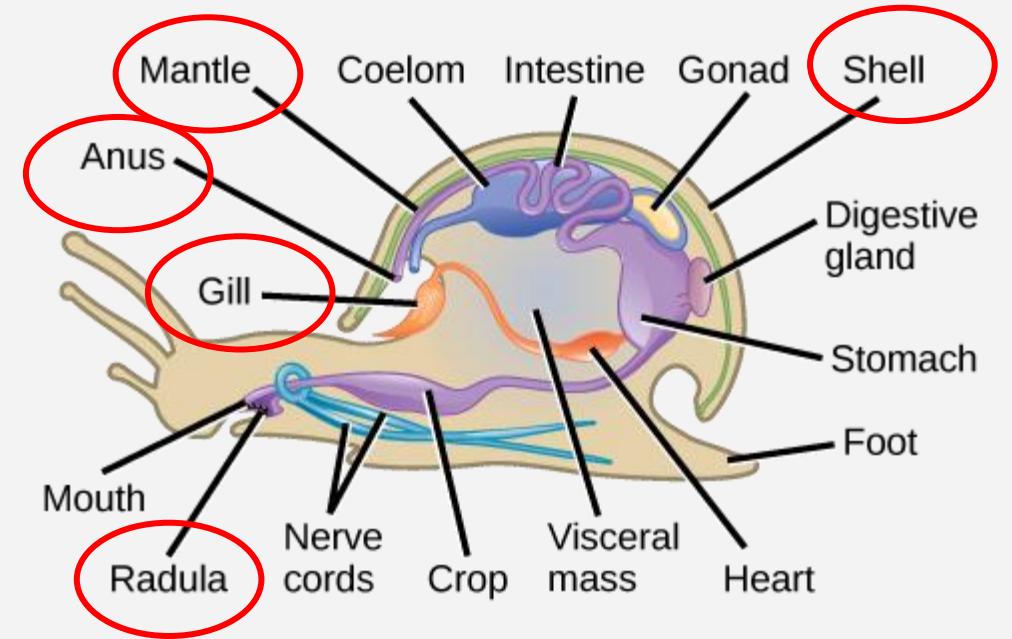


Mollusks and Segmented Worms

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Mollusks

- Snails, mussels and octopuses.
- **Mollusks general characteristics** – soft-bodied; usually have a shell; a mantle and muscular foot.
- **Mantle** – covers the mollusk's body.
- **Mantel cavity**, contains gills.



Gastropod means "stomach footed" referencing the position of the animals "foot" beneath its gut

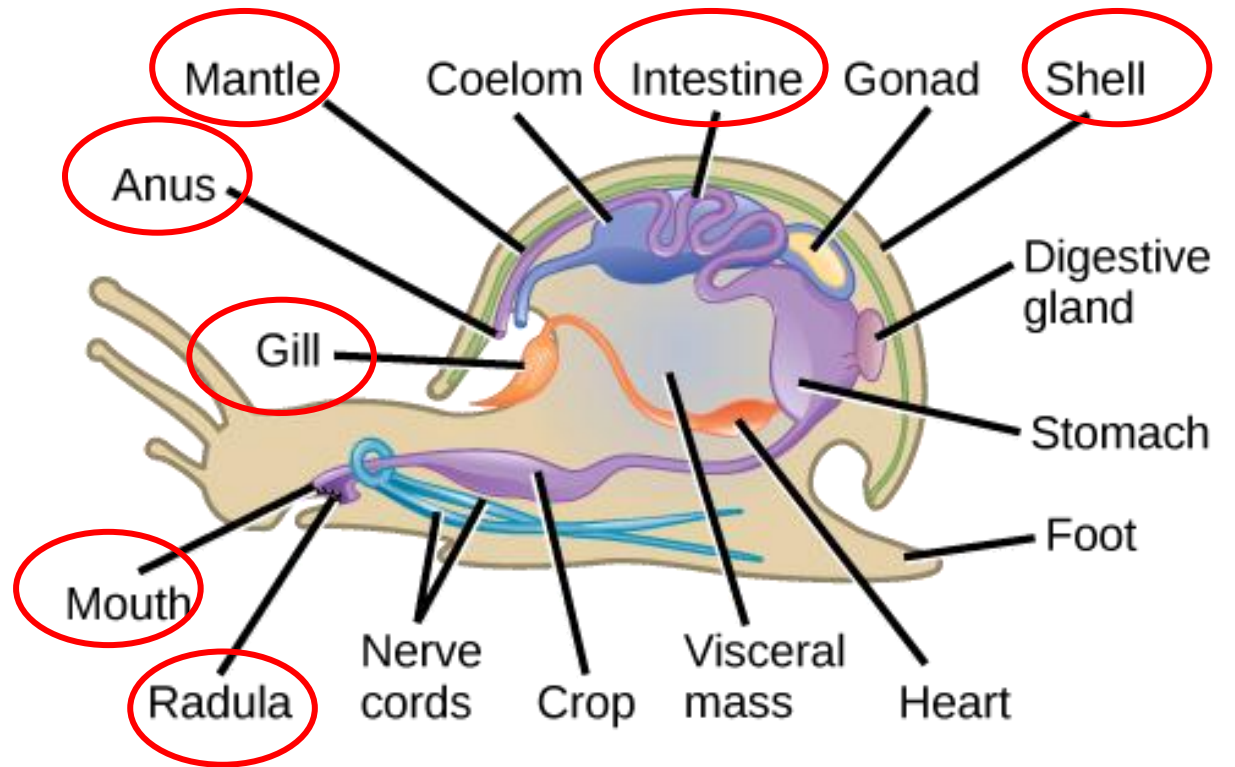
A bivalve's name references its two shells or halves, called valves

Cephalopod means "head footed" referencing the way a cephalopods' head connects to its many arms



Mollusks body systems

- **Digestive system** – two openings; one side mouth, the other side anus.
- Radula – tongue like organ
- **Open circulatory system** – they don't have blood vessels; body fluid float around inside of the body.



Open vs. Closed Circulatory Systems

▶ OPEN

- Blood flows freely within the body cavity and makes direct contact with organs and tissues.

▶ *Examples:* insects



▶ CLOSED

- Blood is kept physically contained within vessels. The blood follows a continuous fixed path of circulation and is confined to a network of vessels that keeps the blood separate.

▶ *Examples:* earthworms, birds, humans

Snail trail

Types of mollusks

1. **Gastropods** – have one shell; they glide across object with the help of secreted mucus called **snail trail**. These trails also provide chemical communication among gastropods. (Snails)
2. **Bivalves** – they have two shells, that's why they have the prefix “**bi**”. They filter water and feed from the filtered water. (Mussels)

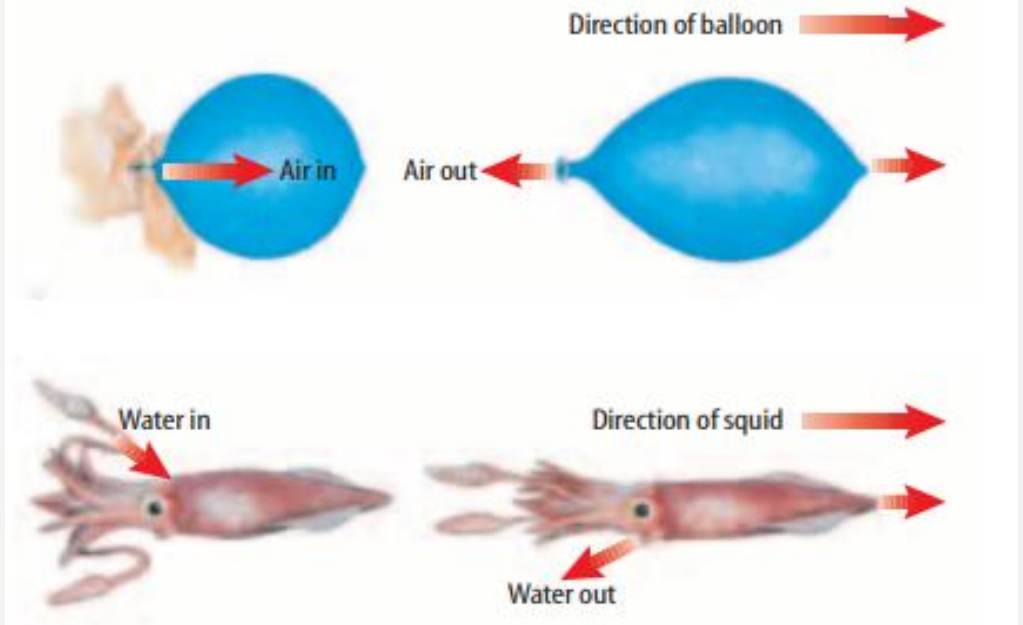


Types of mollusks

3. **Cephalopods** – they have a well-developed head and a **foot that is divided into tentacles with strong suckers.**

They have Close circulatory system.

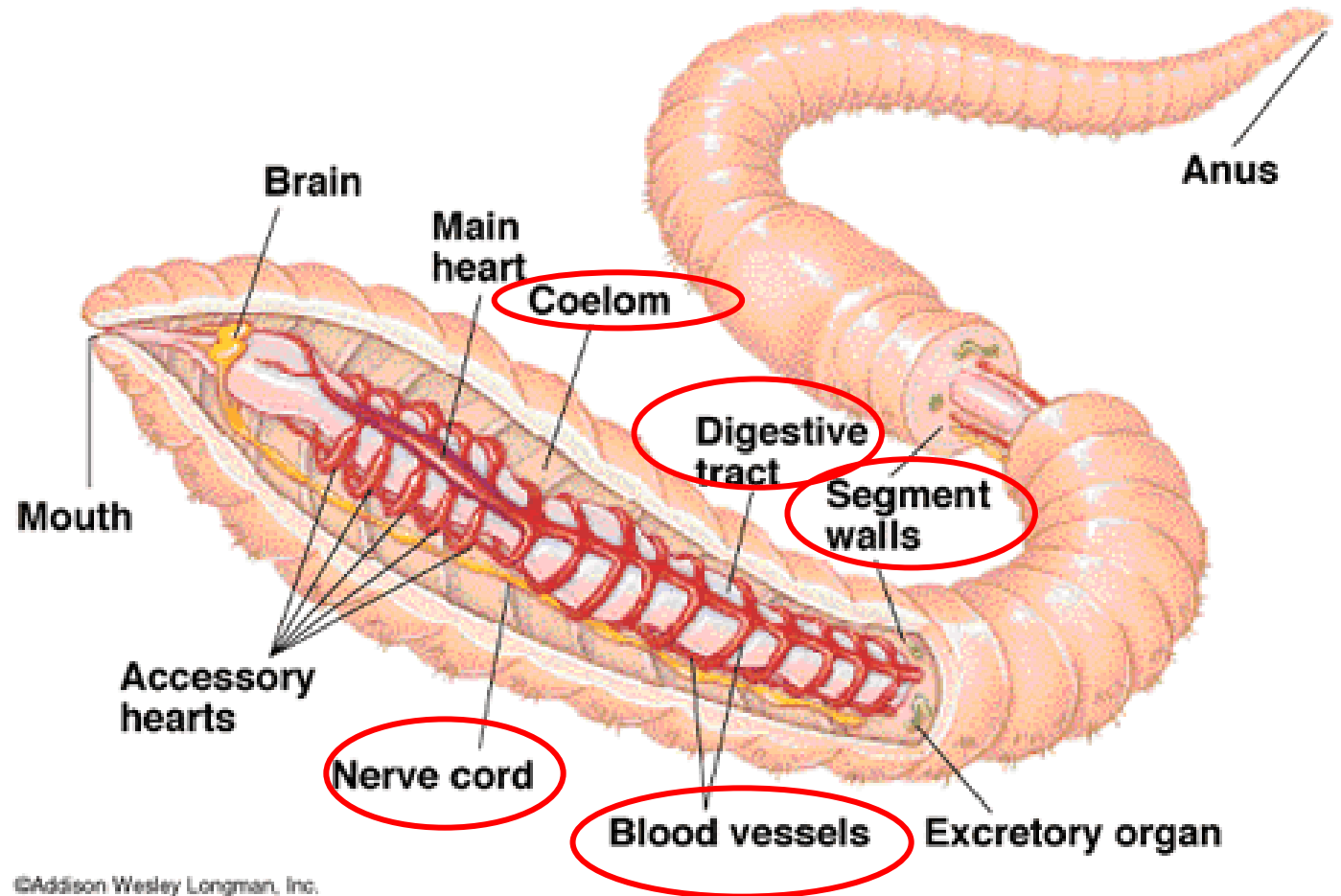
They move very fast with the help of water that enters from one side and goes out from another side. (Octopuses)



Segmented Worms (Annelids)

Earthworms, leeches, and marine worms.

- Their body is made of **repeating segments** or **rings** that make these worms flexible.
- Each segment has **nerve cells**, **blood vessels**, **part of the digestive tract**, and the **coelom**.
- The **coelom**, or **internal body cavity**, separates the internal organs from the body wall.
- **Closed circulatory system** and **digestive system with two openings**.



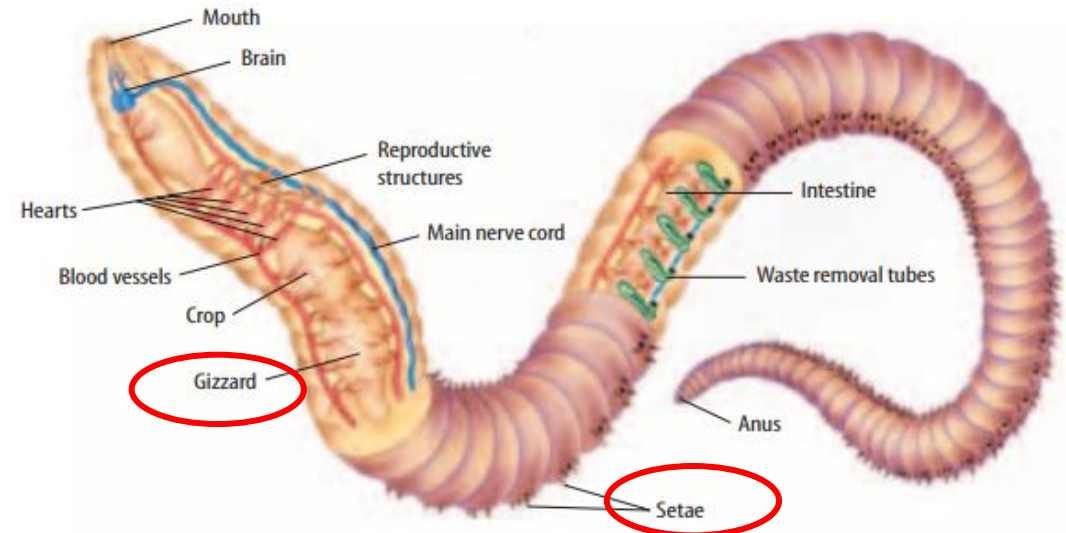
Types of segmented worms (annelids)

1. Earthworms:

More than 100 body segments.

Setae – external bristle-like structures

Earthworms use the setae to grip the soil while two sets of muscles move them through the soil. As earthworms move, they take soil into their mouths. **Earthworms get the energy they need to live from organic matter found in the soil.** From the mouth the soil moves to the crop, where it is stored. Behind the crop is a muscular structure called the **gizzard**. Here, the soil and food are ground. In the intestine, the food is broken down and absorbed by the blood. Undigested soil and wastes leave the worm through the anus.



Types of segmented worms (annelids)

2. Leeches:

- Flattened bodies with **sucking disks**.
- Through disks they attach to surfaces and remove blood.
- They can store **as much as ten times their own weight** in blood.



Types of segmented worms (annelids)

3. Marine worms:

- They are **polychaetas**, the largest and most diverse group of annelids. Of the 10,000 named species of annelids, more than 8,000 of them are marine worms. The word **polychaeta** means “**many bristles**.”
- Most marine worms have bristles, or **setae**, along the sides of their body. Because of these bristles, marine worms are sometimes called **bristle worms**. Bristles are used for **walking, swimming, or digging**, depending on the type of marine worm.

