

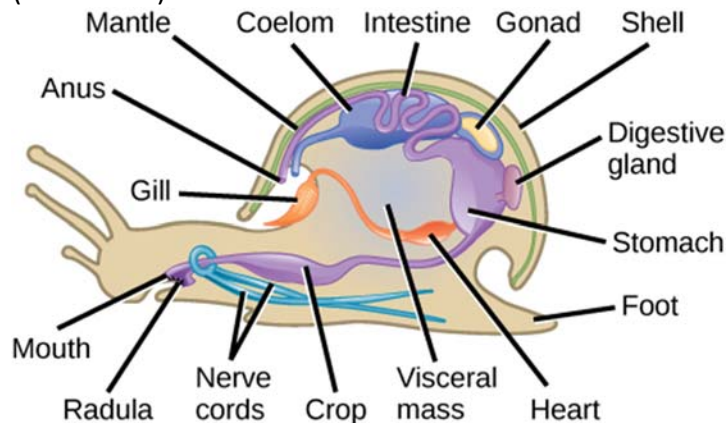
LIFE SCIENCES 11

MOLLUSCS

Phylum	Mollusca
Level of Organization	Organ
Digestive System	Tube
Symmetry	Bilateral
Coelom	Coelomate
Cavity Development	Protostome
Segmentation	None

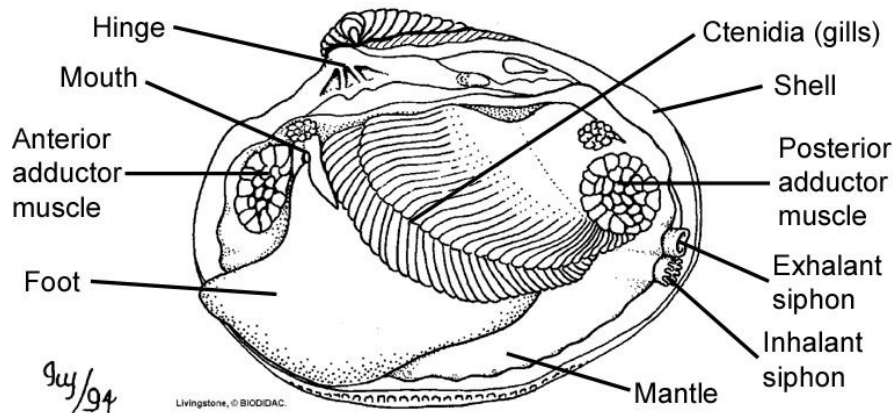
Molluscs

- more than 110,000 species
- all have a soft internal body, a muscular foot, a mantle and the visceral mass (region containing the organs)
- feed either by using a radula or by filter-feeding
- exchange gases using the fringed edges of the mantle
- have a developed circulatory system that includes a heart
- remove metabolic wastes using specialized structures called nephridia to filter their blood
- nervous system may be simple or highly complex including a brain
- reproduce sexually
 - most aquatic molluscs use external fertilization
 - most terrestrial molluscs use internal fertilization and many are hermaphrodites
- 3 main classes
 1. Gastropods
 - have a large foot used for movement located under the stomach
 - includes snails, slugs, abalone, conches, limpets, cowries and nudibranchs
 - may secrete calcium carbonate from the mantle to form a protective shell
 - use their radula to scrap up organic material (herbivores) or to break through shells (carnivores)



2. Bivalves

- Includes clams, oysters, scallops and mussels
- mantle forms two shells (called valves) that encase the organism
- filter feeders – use incurrent and excurrent siphons to move water through their body and the gills to trap food particles
- can open and quickly close the valves to swim through the water
- clams use their muscular foot for digging through sand



3. Cephalopods

- head-footed molluscs – octopus, squid, nautilus and cuttlefish
 - nautilus has an external shell
 - squid and cuttlefish have an internal shell
 - octopus has no shell
- well-developed brain, eyes and nervous system
- foot is divided into separate arms and tentacles
- radula forms a beak that is used to tear apart prey
- take water into the mantle cavity, then are able to forcibly expel it out through the siphon for movement
- squid, octopus and cuttlefish can use ink to confuse or escape predators
- some can also change their skin colouration for camouflage

