

BIVALVES

What are bivalves?



BIVALVES

- Mollusks - soft bodied organisms with bilateral symmetry that are composed of a head, foot and a coiled visceral mass



Gastropods



Bivalves



Cephalopods

BIVALVES

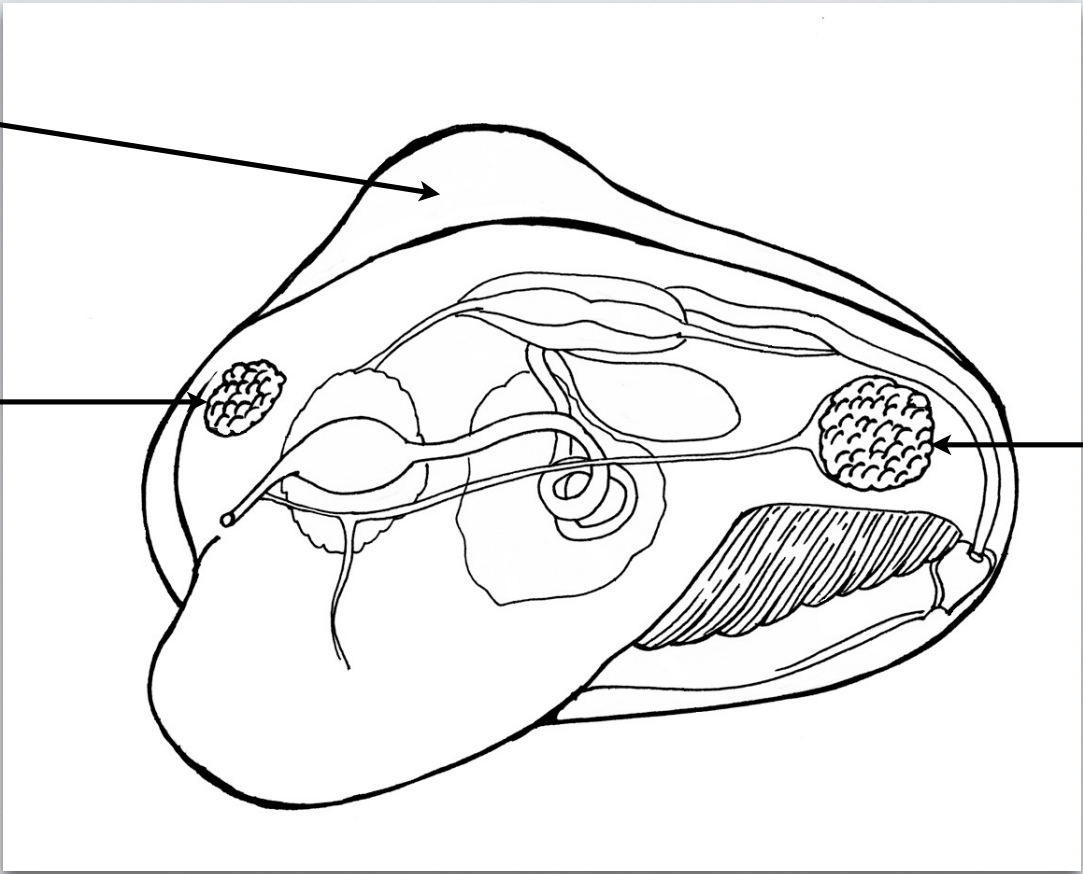
- Bivalve - mollusks with two shells that are held together at one end with a ligament
 - The shells are kept closed by strong adductor muscles



Hinge

Anterior Adductor Muscle

Posterior Adductor Muscle



Bivalve Parts



**Posterior
Adductor
Muscle**

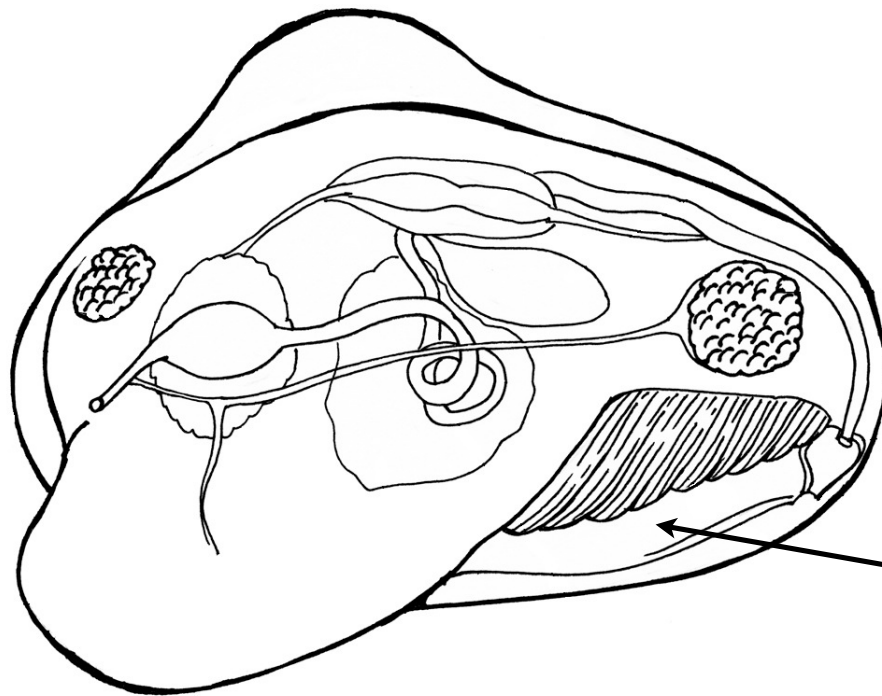
**Anterior
Adductor
Muscle**

Bivalve Parts

BIVALVES

- Bivalve shells are made of calcium carbonate (CaCO_3) and are built from a mantle membrane which lines the inside of both sides of the shell
 - The membrane secretes CaCO_3 thus producing the shell





Mantle

Bivalve Parts

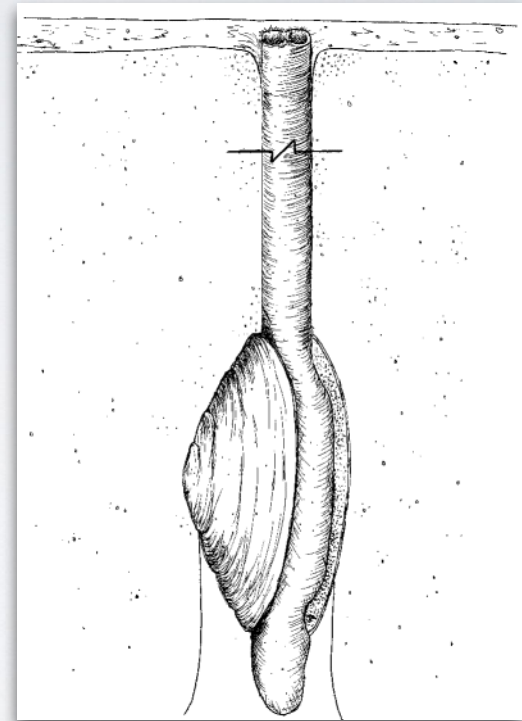


Mantle

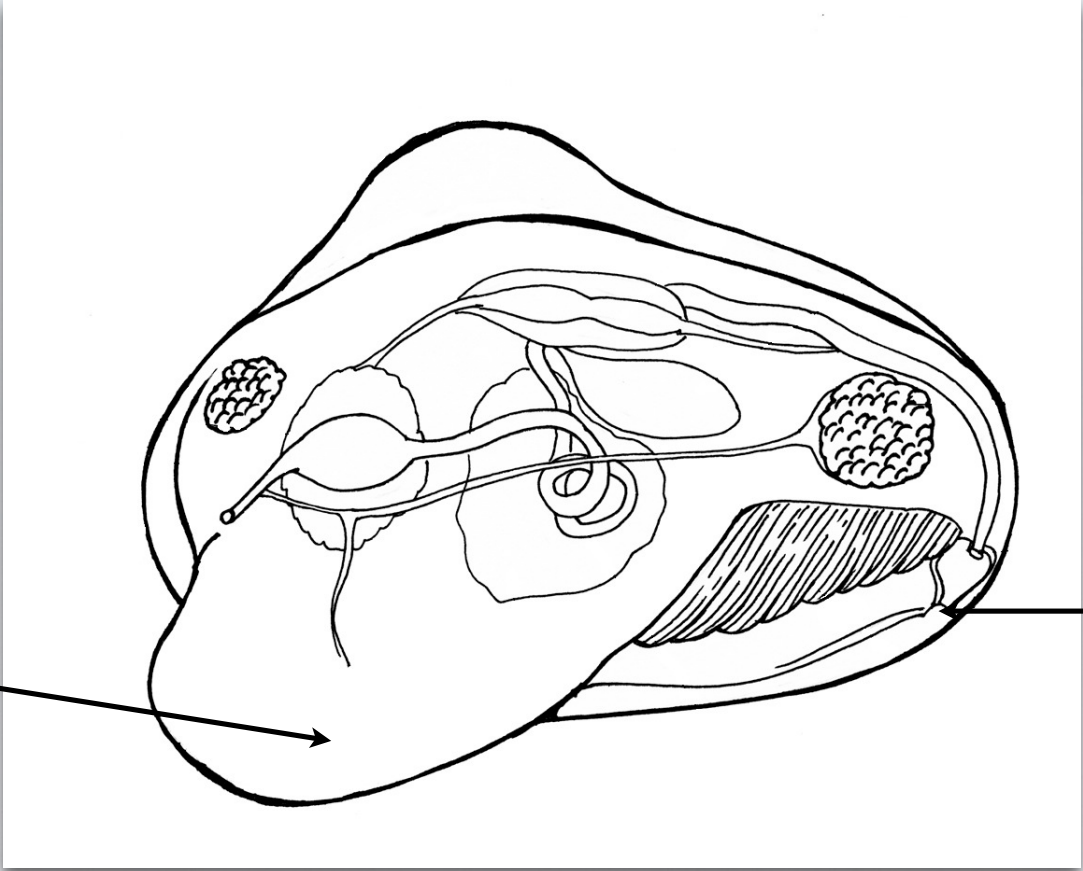
Bivalve Parts

BIVALVES

- Shells are shut very tightly with just a small gap opening for the siphon tubes
 - Bivalves bury themselves in the sand using their muscular “foot” and then extend their siphon tube for feeding and breathing

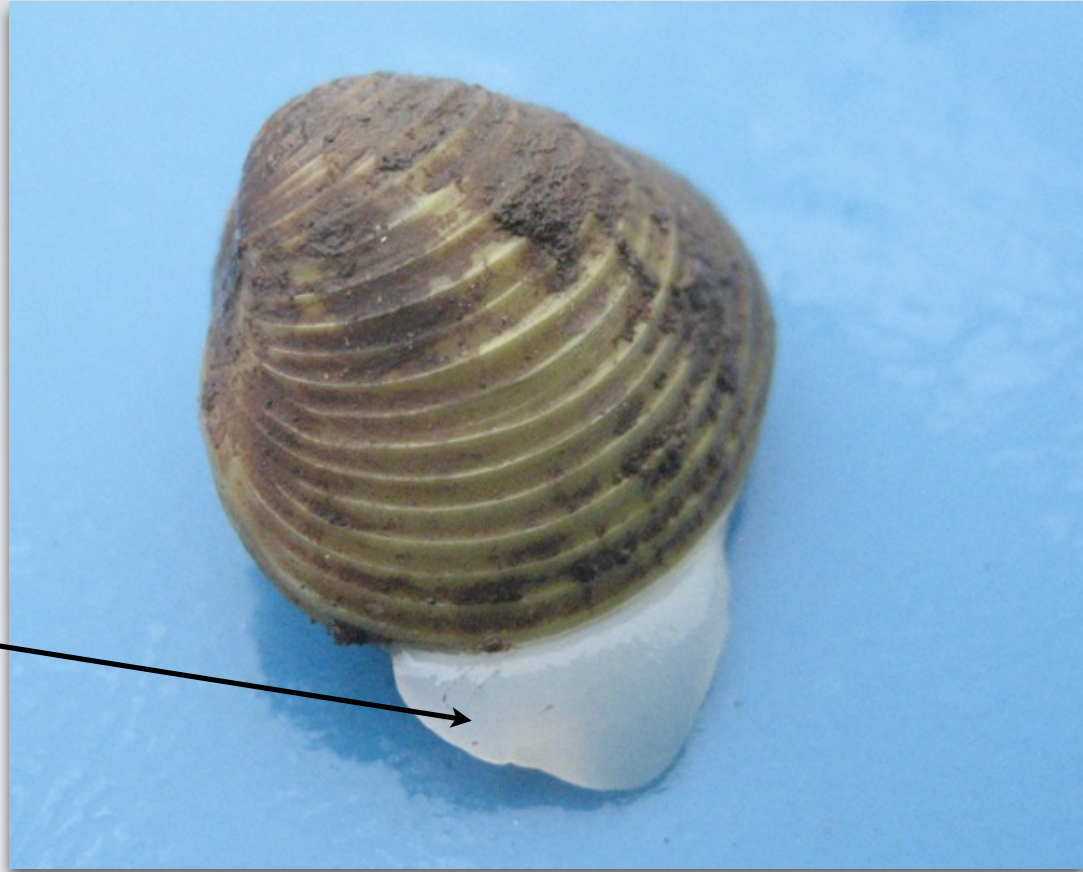


Foot



Siphon
Tubes

Bivalve Parts



Foot

Bivalve Parts



Where did he go?

BIVALVES

- All bivalves are filter feeders
 - They cleanse great quantities of sea water and act as indicators for good water quality



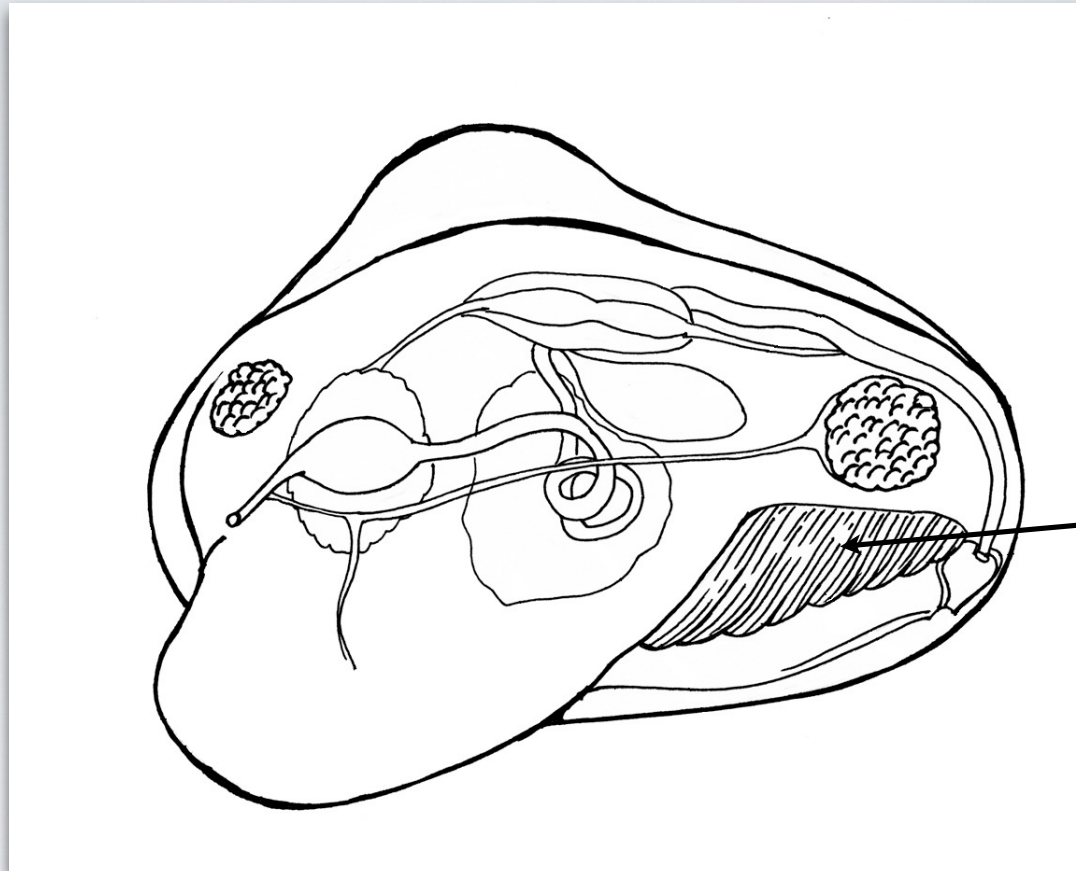
BIVALVES

- During filter feeding water (containing plankton and organic debris) passes into the bivalve through its siphons
 - Food particles get stuck on the mucus surface that coats the surface of the gills and mantle
 - Oxygen is then absorbed by a pair of mucus-coated gills





Where did he go?

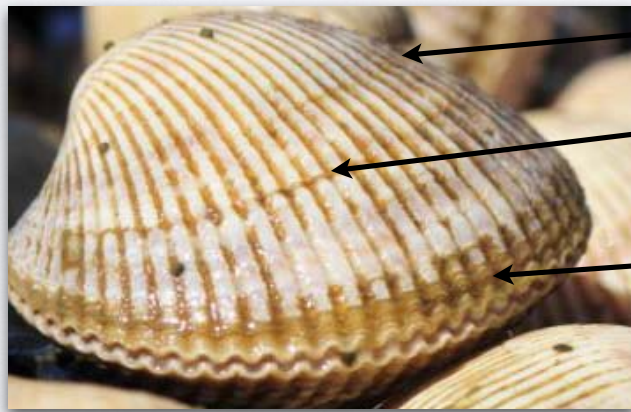


Gills

Bivalve Parts

BIVALVES

- Age can be determined by observing the shell
 - Each ring represents a year of growth (similar to a tree) and larger bands indicate favorable growth conditions



1 Year

2 Years

3 Years

BIVALVES

- Bivalves move using adductor muscle to open and close the shell to propelling it “awkwardly” through the water
 - Scallop is the fastest





Scallop Swimming

BIVALVES

- Bivalves are harvested as food
- Some bivalves produce pearls
 - Results when food or sand lodge between the mantle and shell and layers of calcium carbonate are formed around the grain





Run Away!

