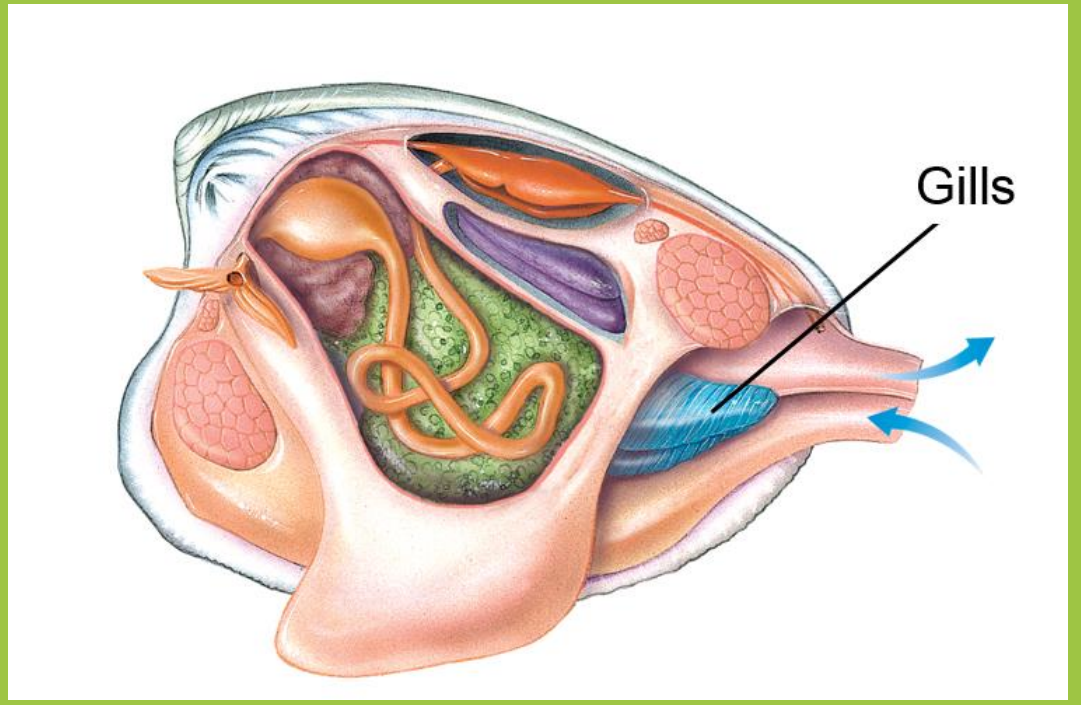
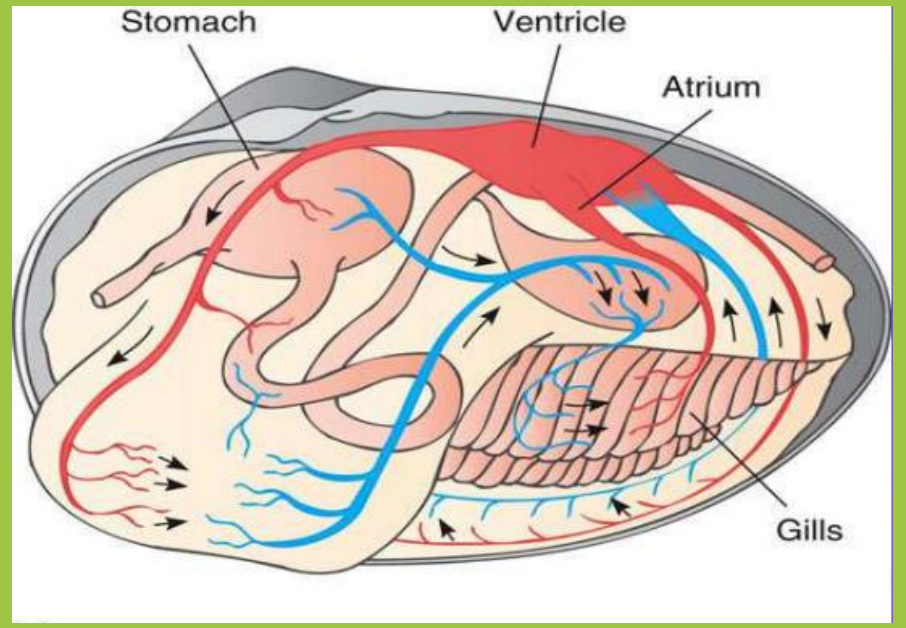
RESPIRATION

- Aquatic mollusks breathe using gills inside their mantle cavity.
  - Snails, clams, octopi
- Oxygen from water moves into the blood flowing through the gills
- Carbon dioxide moves out of the blood into the gills
- Land molluscs
  - Respire using a mantle cavity with large surface area lined with blood vessels
  - Must be kept moist for oxygen to diffuse
  - Snails & slug typically live in moist places

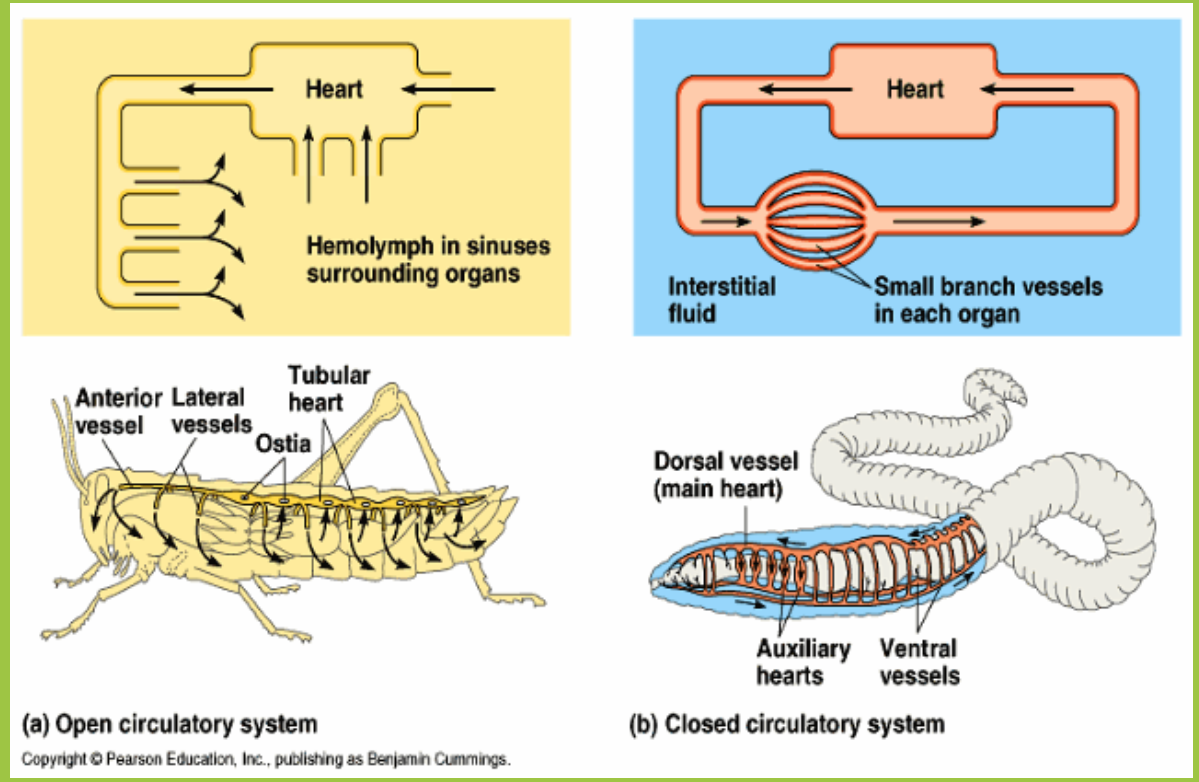


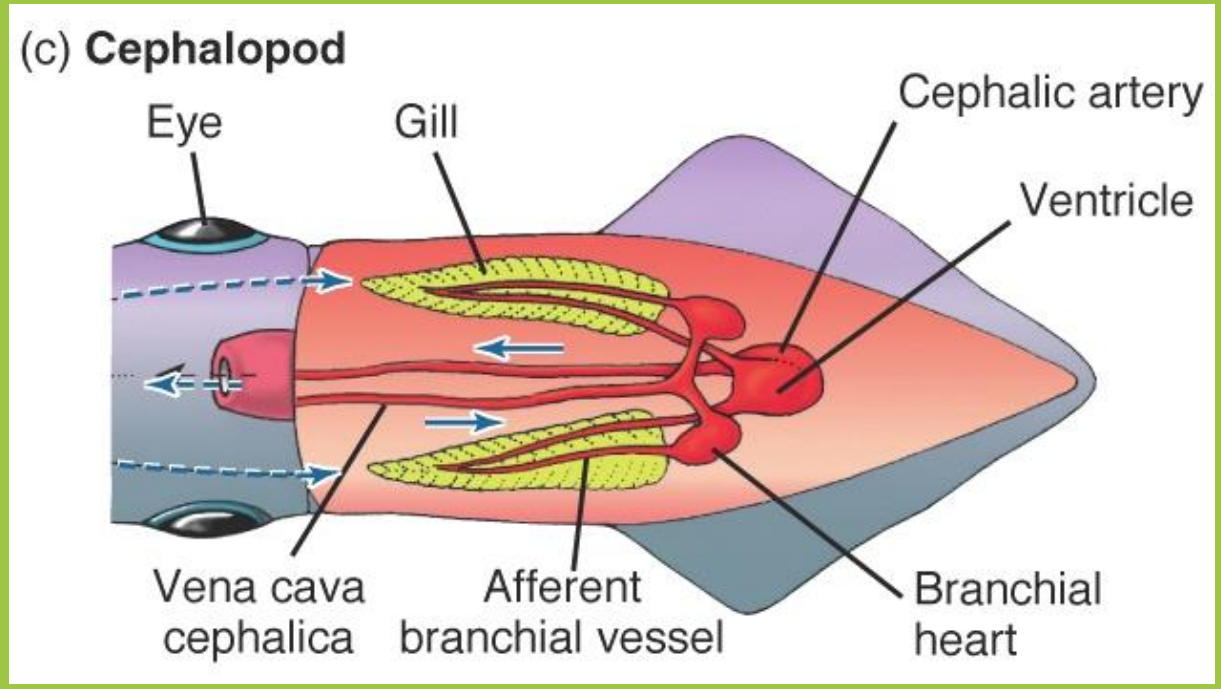
CIRCULATION

- Oxygen and nutrients carried to all parts of the body via circulatory system
- Open circulatory system,
  - blood is pumped through vessels by a simple heart
  - Blood eventually leaves the vessels and works it way through different sinuses
    - A large saclike space
  - Blood passes from the sinuses to the gills where gases are exchanged
  - Blood then returns to the heart



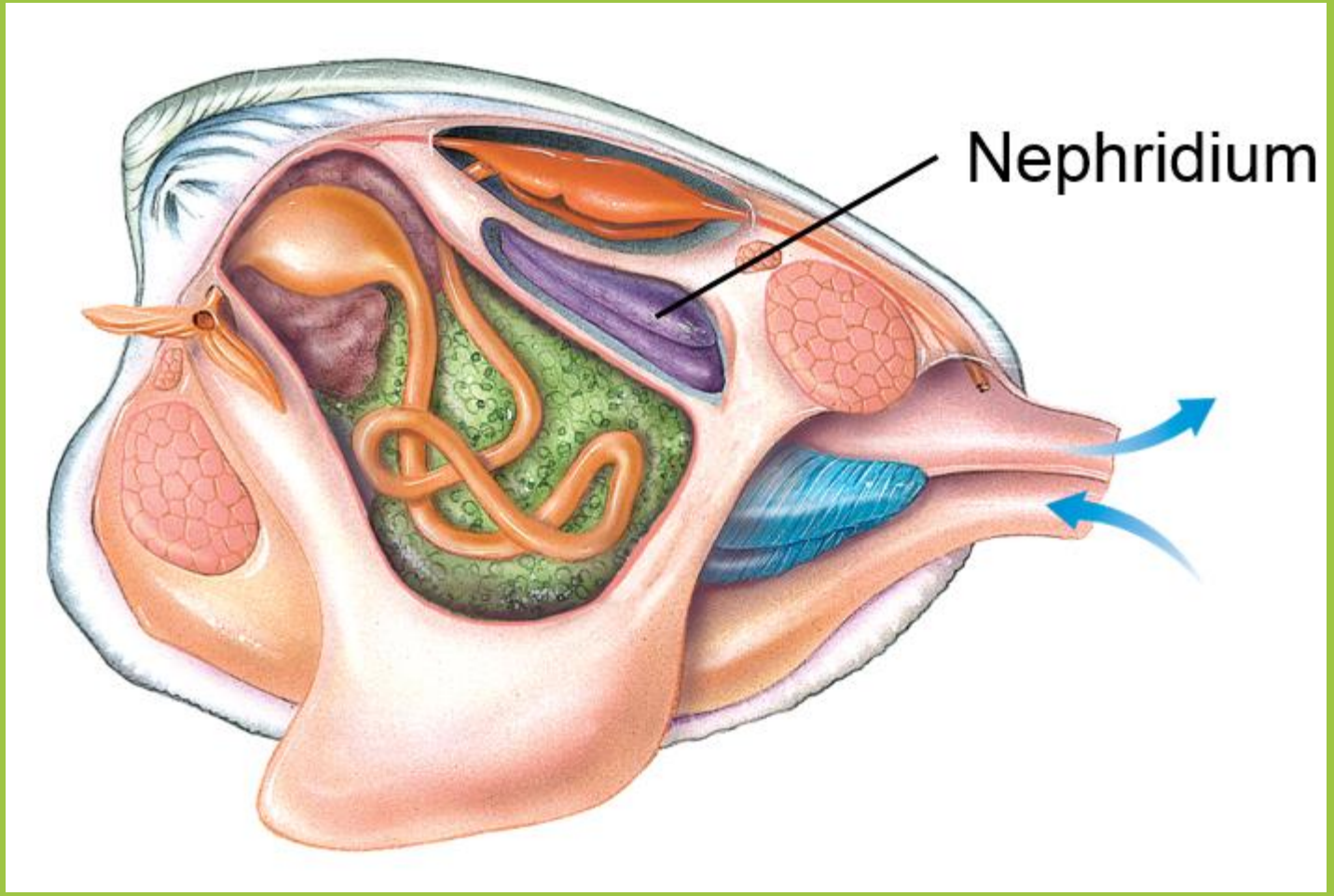
- Closed circulatory system
  - More efficient
  - Developed in fast moving mollusks
  - Transports blood quicker
    - Octopi & squid





EXCRETION

- Cells of the body release cellular waste into blood
- Nephridia remove ammonia from the blood and release it outside the body.



RESPONSE

- Varies greatly
- Clams and two shelled mollusks
  - Simple nervous system
  - Small ganglia near mouth
  - Few nerve cords
  - Simple sense organs (eyespots)
- Octopi and relatives
  - Most highly developed nervous systems of all invertebrates
  - Well developed brains
    - Memory/intelligence
  - Active and intelligent predators
    - Release ink

MOVEMENT

- Move in different ways
- Snails
  - Secrete mucus on base of foot
    - Use rippling motion of foot
- Fast moving molluscs
  - Jet propulsion

- Clam
- Scallop
- Octopus
- Snail
- Snail

REPRODUCTION

- Snails & two shelled molluscs
  - External fertilization (sexual)
- Tentacled molluscs and certain snails
  - Internal fertilization (sexual)
  - Some species are hermaphrodites