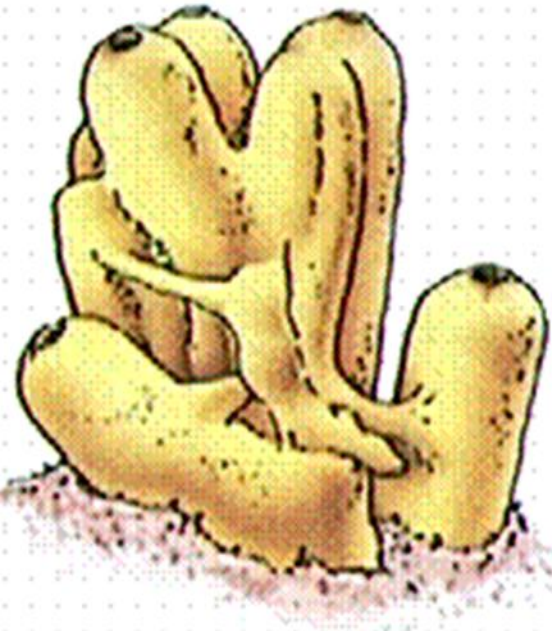


Introduction to Animals

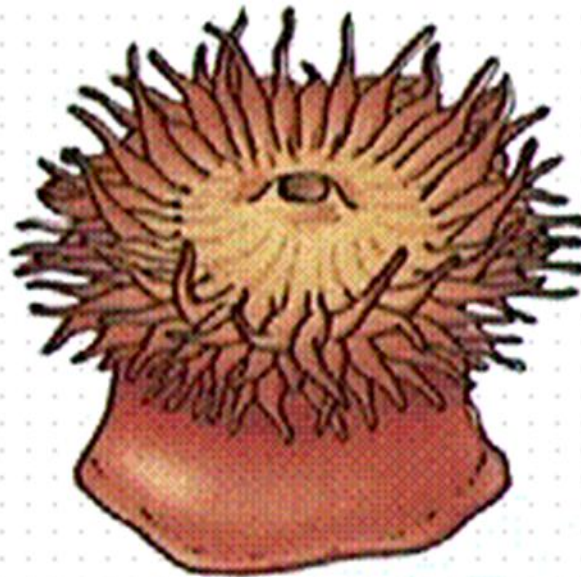
A. Body Symmetry

1. Asymmetrical = no symmetry
2. Radial = repeat around center
3. Bilateral = 2 equal halves

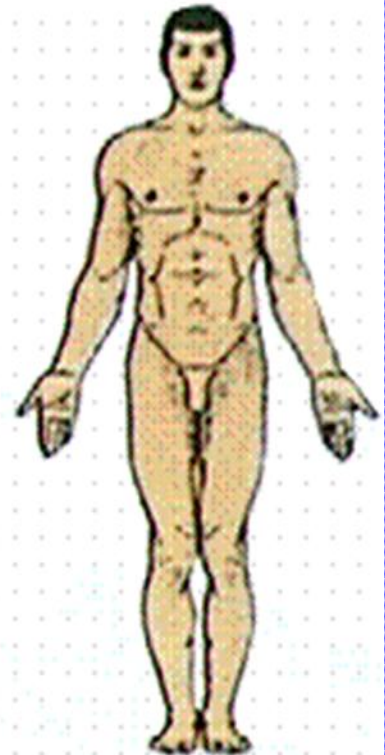
Asymmetrical



Radial

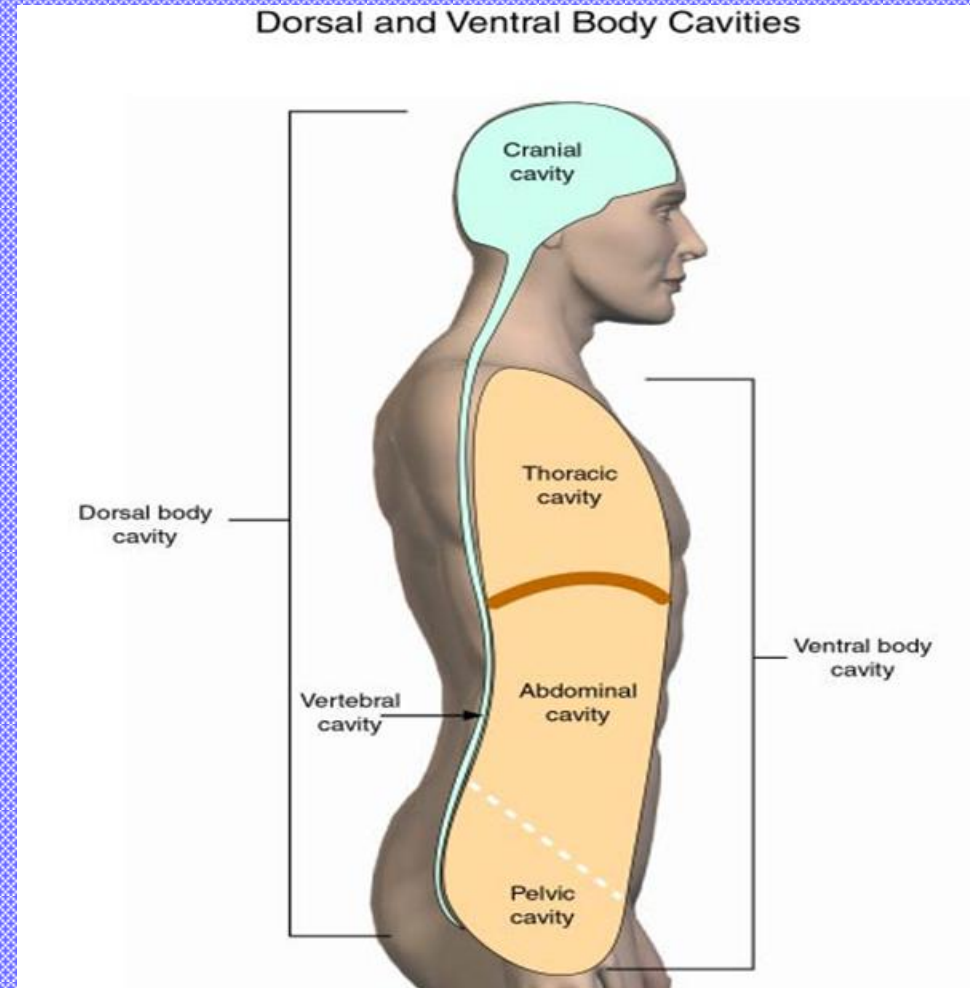


Bilateral



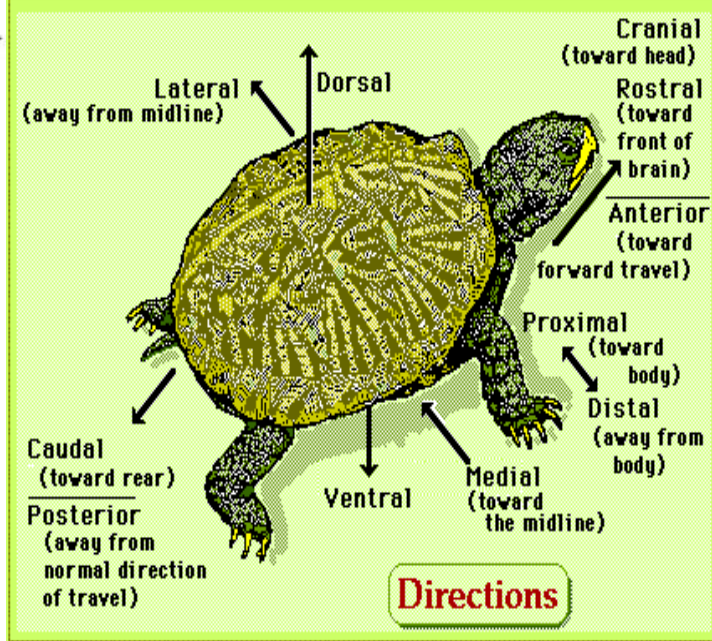
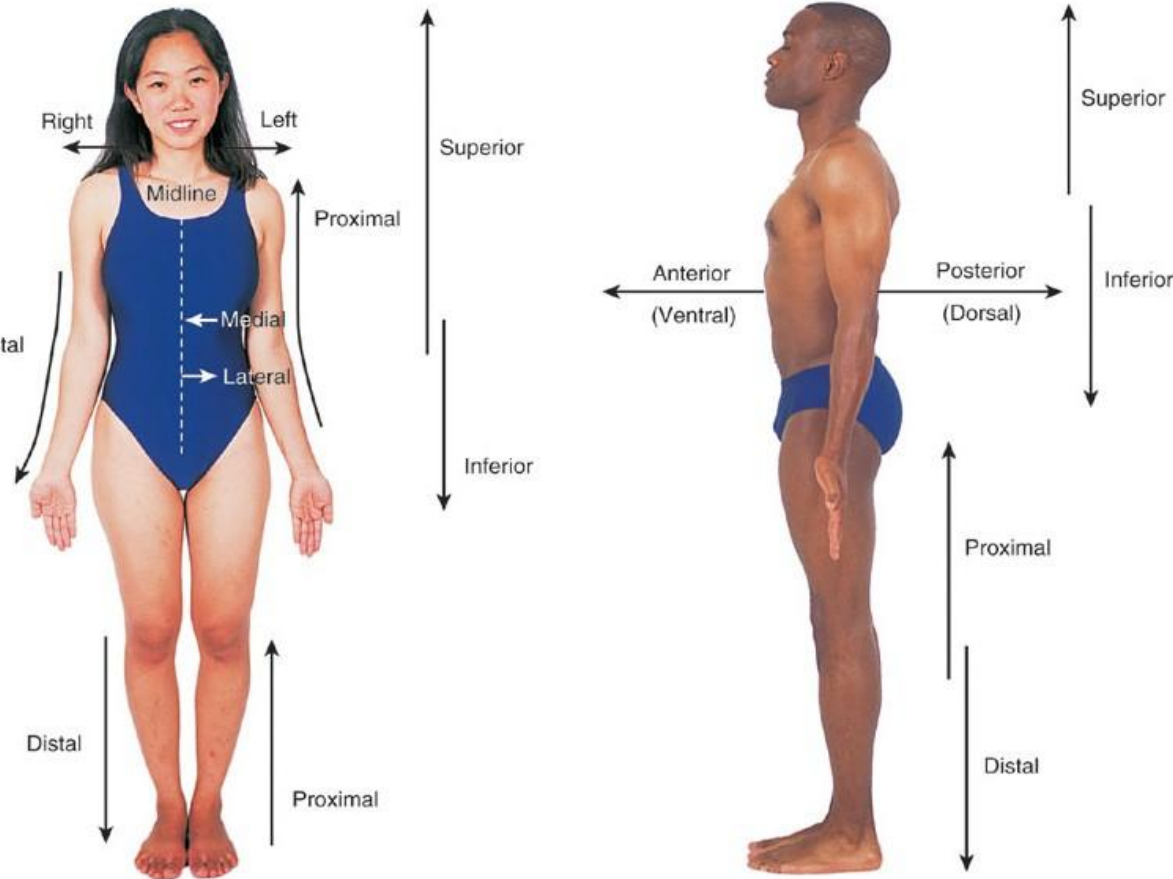
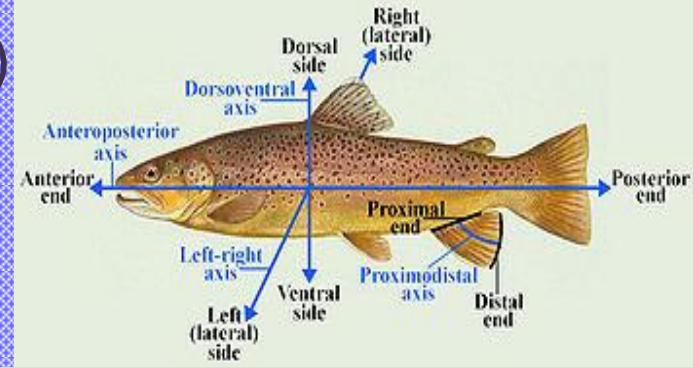
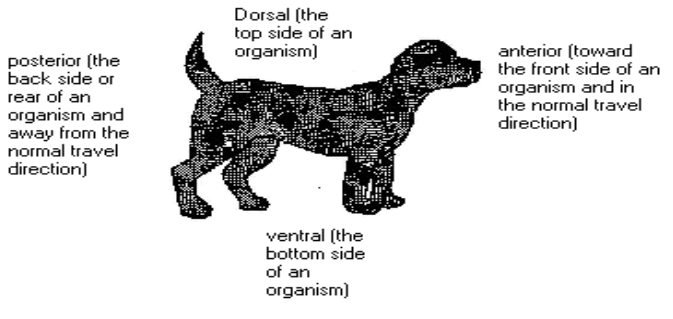
B. Cephalization & Body Cavity

1. Cephalization: sensory/nerves anteriorly (head)
2. Body Cavity: fluid-filled space = body regions
 - a) Cranial-head; thoracic-chest; abdomen-stomach; pelvic-groin



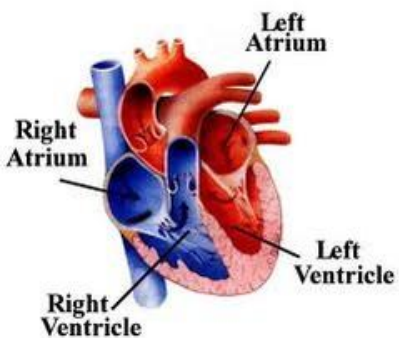
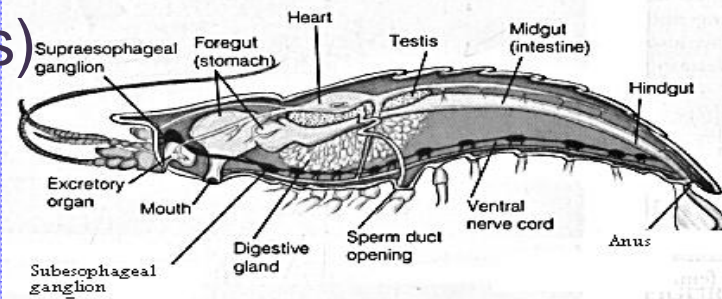
C. Directional Terms for Body

1. Anterior/Cranial: head end (animals)
2. Posterior/Caudal: tail end (animals)
3. Ventral: belly (anterior-human only: travel direction)
4. Dorsal: back (posterior-human only)



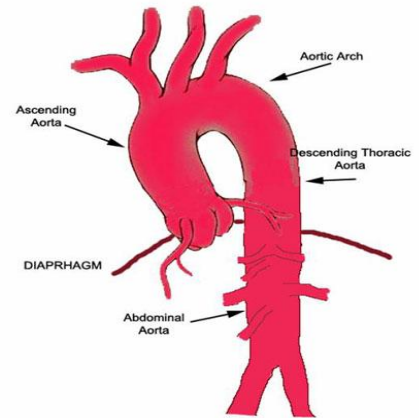
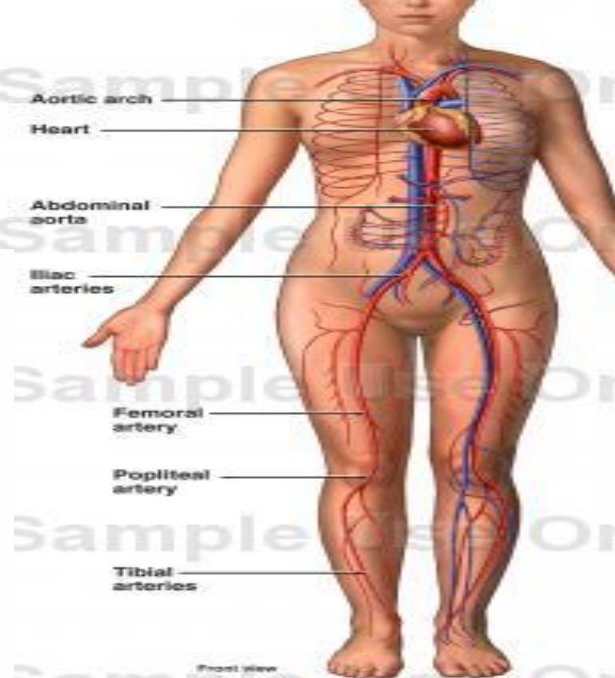
D. Circulatory System:

1. Hearts Chambers: atria-blood in; ventricle-blood out
2. Hearts w/open system (no vessels)
3. Closed system: vessels
 - a) Aorta: artery from heart to body
 - b) Carotid: large artery to head
 - c) Jugular: large vein from head
 - d) Pulmonary: lung artery/vein
 - e) Renal: kidney artery/vein

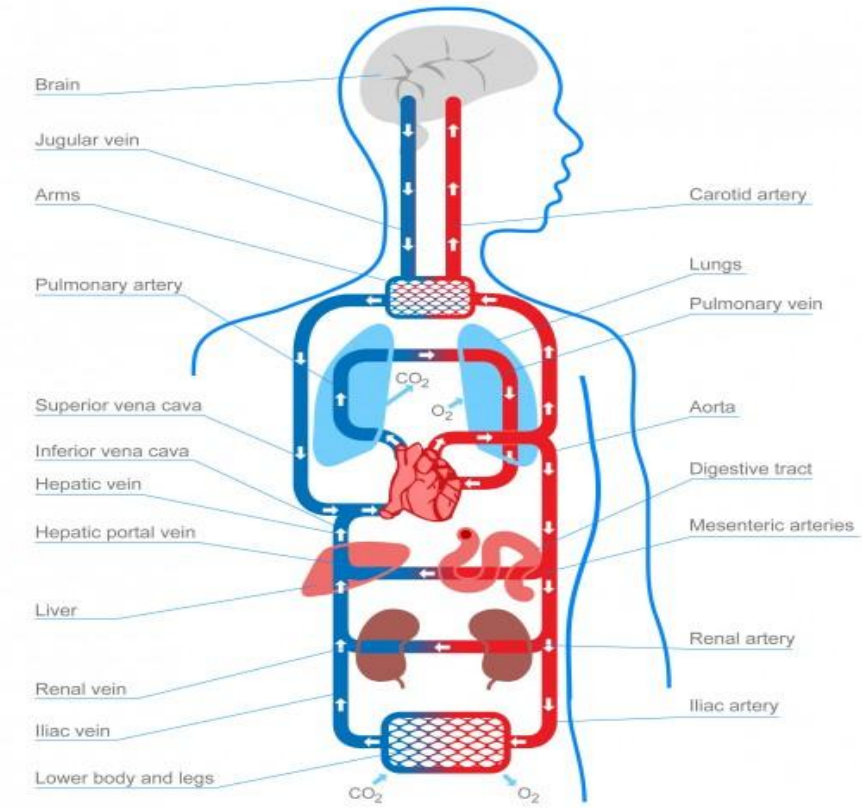


Anatomy of the Circulatory System

Circulatory System

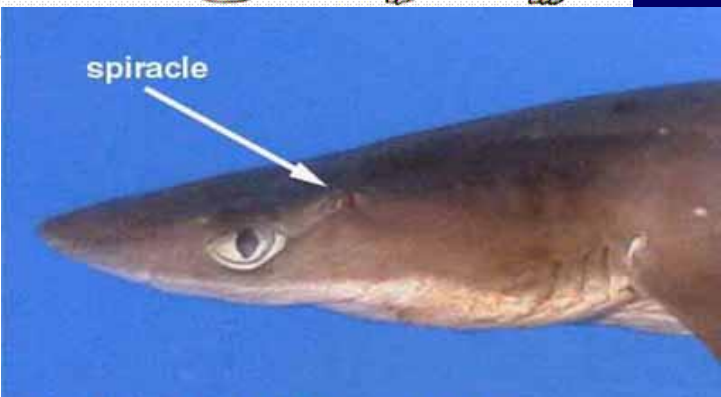
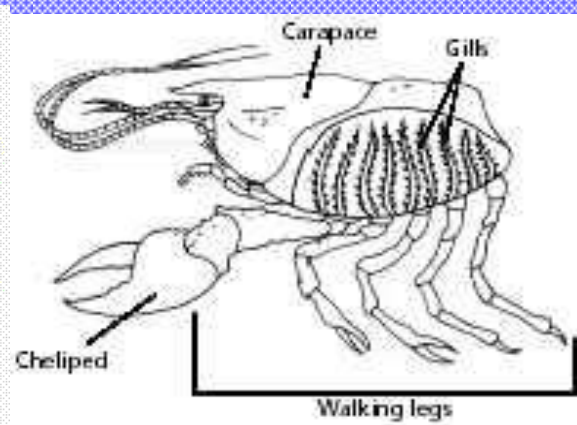
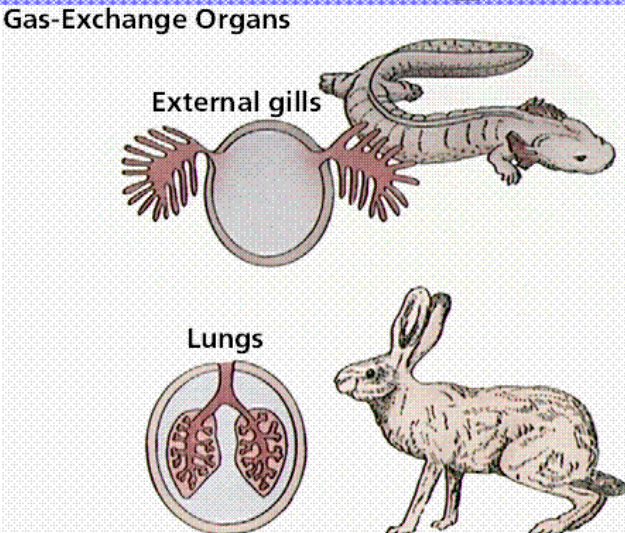
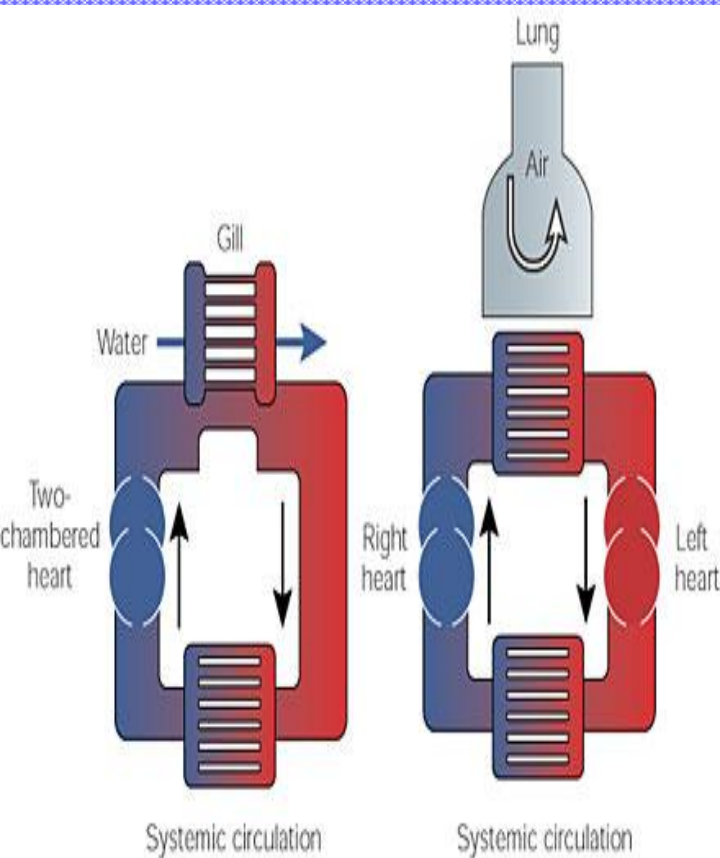


THE CIRCULATORY SYSTEM



E. Respiratory System (gas exchange)

1. Lungs: internal (O_2 in/ CO_2 out)
2. Gills: external (O_2 in/ CO_2 out)
3. Spiracles: 1st gill slit for O_2 to eye/brain



F. Crayfish Anatomy:

1. Antenna (primary feeler); antennule (secondary)
2. Mandible: mouth
3. Rostrum: nose
4. Cheliped: claw
5. Telson: tail
6. Uropod: tail flipper

