<u>Kingdom Plantae</u> (multicellular organisms that carry of photosynthesis)

-2 Divisions in Plantae Kingdom (Simple and Higher Plants)
Simple Plants-Mosses and Ferns

Mosses
-very primitive group of plants
- Includes non-vascular, land plants tree mosses, liverworts and hornworts
-No roots, leaves or stems
-Rhizoids anchor the plant to the ground
-Water moves between cells by osmosis

Ferns
-Vascular plants (vascular tissue is important for movement of water and nutrients throughout plant)
    -Xylem : movement of water from roots to leaves
    -Phloem : movement of nutrients and photosynthesis
Presence of <u>true roots</u> and leaves
    -Roots : have vascular cylinder
    -Leaves : have bundles of vascular tissue called veins
-Grow best in moist habitats
-Ferns have rhizomes (underground stems) in addition to true leaves and roots

Higher plants: trees, flowering, and vines.

-Largest division of the Kingdom Plantae
-Major vascular tissue with vast networks for transporting material
-Use photosynthesis to produce energy
-Most reproduce by flowing and producing seeds or fruits with seeds

<u>Kingdom Animalia</u> (multicellular organisms that eat other organisms for nourishment)

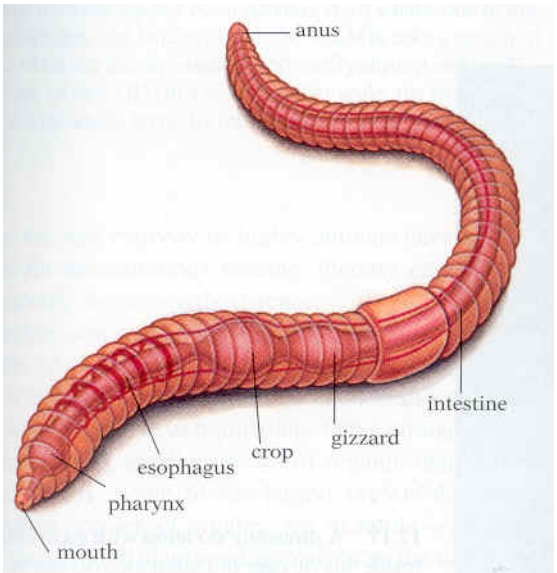
Phylum Nematoda

-nematodes are the simplest animals with two openings in the digestive tract (mouth & anus)
- roundworms (type of nematode) may be the most numerous of all multicellular animals
- most nematodes are free-living, but the parasites get more publicity. free living roundworms are found virtually anywhere (soil, salt flats, polar regions, tropics, etc.)

-all have a tube-shaped digestive tract
-all have a pseudocoelom (false cavity)
-excretion of nitrogenous wastes is through diffusion, as is respiration.
-Nervous systems are simple. Reproduction is done sexually. Most species have separate sexes.

Parasitic roundworms may have 2 or 3 hosts in a life cycle, or they may complete different phases of their life cycle in different organs in the same host.
-Ascaris is a common intestinal roundworm in humans
-Hookworms are a serious intestinal parasite found in humans.
-Trichinella causes trichinosis, where larvae burrow into a host's muscles. It is spread to a new host when a carnivore eats infected meat.

Phylum Annelid (earth worms, leeches)



-annelida means "little rings"
-all annelids have a true coelom; their bodies are divided into many segments; they have well-developed organ systems; most have external bristles called setae

-digestive tract : many have a pharynx they use to capture prey; some are filter feeders

-aquatic annelids often breathe with gills; but other take in oxygen (and give off carbon dioxide) through their skin

-annelids have a closed circulatory system with several ring vessels that function as hearts

-complex sensory organs are present in most

- movement is accomplished by the muscular system

-reproduction is sexual, but a few can also bud -- some species have separate sexes, some are hermaphroditic

Phylum Mollusca

-mollusca comes from the Latin word for soft

-mollusks have a muscular "foot" and a mantle which secretes a shell (in most cases). The mantle surrounds the soft body.

-have a complete digestive tract (including a liver), and an open circulatory system (cephalopods have a closed). Mollusks also have respiratory systems, muscular systems, excretory systems (kidneys), reproductive systems and nervous systems.

-have bilateral symmetry, and un-segmented bodies

-3 major classes of mollusks:

Cephalopoda : "head-foot" mollusks (squid, octopus, cuttlefish, chambered nautilus). Most have an internal shell and the foot is split into 8 or 10 tentacles

Gastropoda : "stomach-foot" mollusks (snail, slug). Have a well-developed head, and a large flat foot on which they crawl. The snails have one shell (univalve).

Bivalvia : "two shell" mollusks (clam, oyster, mussel, scallop). Have a compressed body, where the foot helps to hold the shell together.