

Animal Notes

1 **Porifera**- Pore-bearing ex: Sponge

-Body Plan

- Choanocyte – cell with a flagella
- Spicules- provide support; made out of calcium carbonate, silicon, or spongin
- Pores

-Reproduction

- Asexually- Budding/Fragmentation
- Sexually- Sperm-->egg, larva-attach and grow

2 **Cnidarian**- “Nettle” ex: jellyfish, sea anemone, coral, hydra,

-Gastrulating- Forming layers (tissues)

- endoderm- tissue on the inside, results in gut (digestion)
- ectoderm- tissue on the outside, results in nervous system

-Nematocyst- stinging cell

-Radial Symmetry – radiating out from a center

3 **Platyhelminthes**- Flatworm ex: planaria and tapeworm

-Body Plan

- Bilateral Symmetry
- Cephalization- head
- Mesoderm – tissue in the middle, results in organs (2 way gut, reproductive, circulatory)
- Acoelomate- solid, O₂ diffuses

-Reproduction

- Sexually- hermaphrodites, exchange sperm
- Asexually- drop their tail

4 **Nematoda**- Round worms

-Body Plan

- Mouth and anus
- Pseudocoelom (body cavity)- diffuse nutrients and O₂
- Separate sexes

-Cause disease: Ascaris and Elephantiasis

5 **Annelida**- segmented worms (earthworm, leech, marine worm)

-Body Plan

- specialized segments for sucking, feeding, eliminating waste, and reproduction.
- Each segment with excretory, circulatory and nervous system
- Tube within a tube (coelom)

6 **Mollusca**-

- **Gastropods (Stomach Foot) ex: slug and snail** (radula rows of teeth)
- **Bivalve (2 shells) ex: oysters, clams, mussels, scallops** (filter feeders)
- **Cephalopod (Head-foot) ex: squid, octopus, nautilus**
- Chiton

7 **Arthropods**-

- Jointed appendages (limbs-walking, grasping, antennae, mouthparts)
- Exoskeleton (chitin)- muscles attach to inside *waterproof
 - **Arachnids (Spiders, scorpions, mites, ticks, horseshoe crabs) – abdomen and cephalothorax**
 - **Insects- head/thorax/abdomen**
 - **Crustaceans (Shrimp, crab, lobster, pill bugs, barnacles, Daphnia)**

8. **Echinodermata**-

- ex. Sea star, sea cucumber, sand dollar (no segmentation)
- Deuterostomes (1st opening is anus, not the mouth)
- Endoskeleton (plates) – larva have bilateral symmetry and adults have radial symmetry (X5), a ring of nerves and no brain.
- Water vascular system – locomotion, feeding (stomach out of body) and gas exchange.

9. **Chordata**-

- **Dorsal hollow nerve cord (tail past anus), notochord (supportive rod), and slits in pharynx (Eustacean tubes)**
- **Agnatha (jawless fish) lampreys and hagfish**
- **Chondrichthyes (cartilage w/jaws and a lateral line) sharks, skates, rays**
- **Osteichthyes (body w/ swim bladder and color vision) trout, perch, tuna**
- **Amphibians (double loop, 3 chamber circulatory system, respiration, and kidneys) frogs, toads, salamanders**
- **Reptiles (3.5 chamber heart, internal fertilization)**
- **Birds (4 chambers, warm blooded)**
- **Mammalia (milk & fur)**