Day 2 - Biology – 8-13-24 to 8-14-24

NO CELL PHONES, EARBUDS, HEADPHONES - On Schoology: Submit WarmUp after completing.

WARMUP–The Science of Biology–(10 min)

What is the Scientific Method?

Submit work on Schoology as soon as completed.

Invertebrates are a diverse group of organisms that lack a vertebral column or backbone. They make up the vast majority of animal species on Earth and are divided into several major subphyla based on their characteristics and evolutionary relationships. Here's a comparison of some of the major subphyla of invertebrates:

1. **Porifera (Sponges)**:
    - Characteristics: Simplest multicellular animals, primarily marine, asymmetrical or radially symmetrical body plan, lack true tissues and organs, filter feeders.
    - Examples: Bath sponges, glass sponges.

2. **Cnidaria (Cnidarians)**:
    - Characteristics: Radially symmetrical body plan, specialized cells called cnidocytes that contain stinging structures called nematocysts, two body forms - polyp and medusa, often with a gastrovascular cavity.
    - Examples: Jellyfish, corals, sea anemones.

3. **Platyhelminthes (Flatworms)**:
    - Characteristics: Bilaterally symmetrical, flattened body, some are free-living while others are parasitic, lack a body cavity (acoelomates), primitive nervous and digestive systems.
    - Examples: Planarians, tapeworms, flukes.

4. **Nematoda (Roundworms)**:
    - Characteristics: Unsegmented, cylindrical body, complete digestive system, pseudocoelomates (body cavity is not completely lined with mesoderm), diverse habitats including soil, water, and organisms.
    - Examples: Soil nematodes, parasitic roundworms.

5. **Mollusca (Mollusks)**:
    - Characteristics: Soft-bodied animals often protected by a hard shell, bilateral symmetry, muscular foot for locomotion, diverse feeding strategies, three main classes - Gastropoda, Bivalvia, and Cephalopoda.
    - Examples: Snails, clams, octopuses.

6. **Annelida (Annelids)**:
    - Characteristics: Segmented bodies, bilateral symmetry, closed circulatory system, well-developed nervous system, hydrostatic skeleton, diverse habitats including terrestrial, freshwater, and marine.
    - Examples: Earthworms, leeches, marine bristle worms.

7. **Arthropoda (Arthropods)**:
    - Characteristics: Segmented bodies with jointed appendages, exoskeleton made of chitin, bilateral symmetry, highly diverse and successful group, includes insects, arachnids, crustaceans, and myriapods.
    - Examples: Insects (beetles, butterflies), arachnids (spiders, scorpions), crustaceans (crabs, shrimp), myriapods (centipedes, millipedes).

8. **Echinodermata (Echinoderms)**:
    - Characteristics: Radially symmetrical as adults (bilateral in larvae), endoskeleton made of calcareous plates, water vascular system for locomotion and feeding, often with pentaradial symmetry.
    - Examples: Starfish, sea urchins, sea cucumbers.

Each of these subphyla exhibits unique adaptations and characteristics that have allowed them to thrive in a wide range of environments, contributing to the incredible diversity of invertebrate life on Earth.