

Textbook Review

Chapter 12

Reading: Chapter 12 – page 222-229; 231-233.

Questions: Page 233 – 1, 2, 3, 4, 5, 6, 9, 11, and 12.

- 1. Earliest diverging lineage within the Ecdysozoans.**
 - a. The textbook is a little behind the times.
 - b. It does not group the Nematodes with the Arthropods.
- 2. Know the basic life cycles of the four most common North American nematodes.**
 - a. Intestinal roundworms, Hookworms, *Trichinella*, and Pinworms.
- 3. We reviewed two groups from this chapter (Before the Arthropods).**
 - a. **Onychophora:** Velvet-worms.
 - b. **Tardigrada:** "Water-bears" (know cryptobiosis).

Chapter 13

Questions: Page 277 – 1, 2, 3, 4, 5, 6, 7 (feeding, webspinning), 8, 9, 10, 11, 12, 13, 14, 15, 16 (feeding, respiration, sensory reception), 17, 18 (labrum, labium, haltere), 19, 20, 21 (respiration, reproduction), 22, 23, 25, 26, 27 and 28.

- 1. Characteristics of Arthropods:** Features for success.
- 2. Chelicerata:** Character variation & diversity.
- 3. Crustacea:** Character variation (especially their appendages) & diversity.
 - a. Ecdysis (pages 247-249).
- 4. Myriapoda:** Chilopoda and Diplopoda
- 5. Hexapoda:** Insects- character variation & diversity.
 - a. Insect adaptability.
 - b. Insect flight (pages 259-260): Synchronous & asynchronous.
 - c. Insect metamorphosis.

Chapter 14

Reading: Chapter 14 – pages 279-299.

Questions: Page 298 – 2, 3, 4, 6 (respiration, feeding), 7, 8, 11, and 12.

- 1. Echinoderms.**
 - a. Overall characteristics reviewed in the Asterozoa (Sea Stars).
 - b. Pentaradial symmetry, endoskeleton, & water vascular system.
- 2. Classification:** Crinozoa, Asterozoa, Ophiurozoa, Echinozoa, Holothurozoa.
- 3. Hemichordata (Acorn Worms).**
 - a. This group was covered in Lecture #17 (Origin of Vertebrates).
 - b. Phylogenetically, they are positioned between Echinoderms & Chordates.

Chapter 15

Reading: Chapter 15 - pages 300-316.

Questions: Page 315 – 1, 2, 3, 4, 5, 6, 7, 8, 9, and 13.

1. **Chordate Characteristics:** Notochord and post-anal tail.

a. The textbook doesn't include the Hemichordates with the Chordates.

b. Note: A dorsal hollow nerve cord & pharyngeal bars appear in the common ancestor of Hemichordata and Chordata. Know these as well.

2. **Early Chordates:** Urochordata, Hemichordata, & Vertebrata.

a. Note: The textbook equates the Craniata with the Vertebrata. In Lecture #18 (Fishes), Vertebrata is distinguished from the Craniata by excluding the Myxinoidea (the Hagfishes).

Chapter 16

Reading: Chapter 16 - pages 317-340.

Questions: Page 339-340 – 1, 2, 3, 5, 6, 7, 9, 10, 11, 12, and 15.

1. **What is a fish?**

2. **Jawless Fishes:** Myxini (=Myxinoidea) & Petromyzontoidea

a. Note: The textbook uses the name Cephalaspidomorphi for lampreys

b. Both are impossibly hard to pronounce, so I'll use "hagfish" and "lamprey" for testing purposes.

3. **Chondrichthyes:** Morphology of sharks

4. **Osteichthyes:** Bony fishes

a. Actinopterygii.- Ray-Finned Fishes

b. Sarcopterygii - Lobe-Finned Fishes

5. **Structural and Functional Adaptations of Fishes:**

a. Adaptations for locomotion, buoyancy, & respiration.