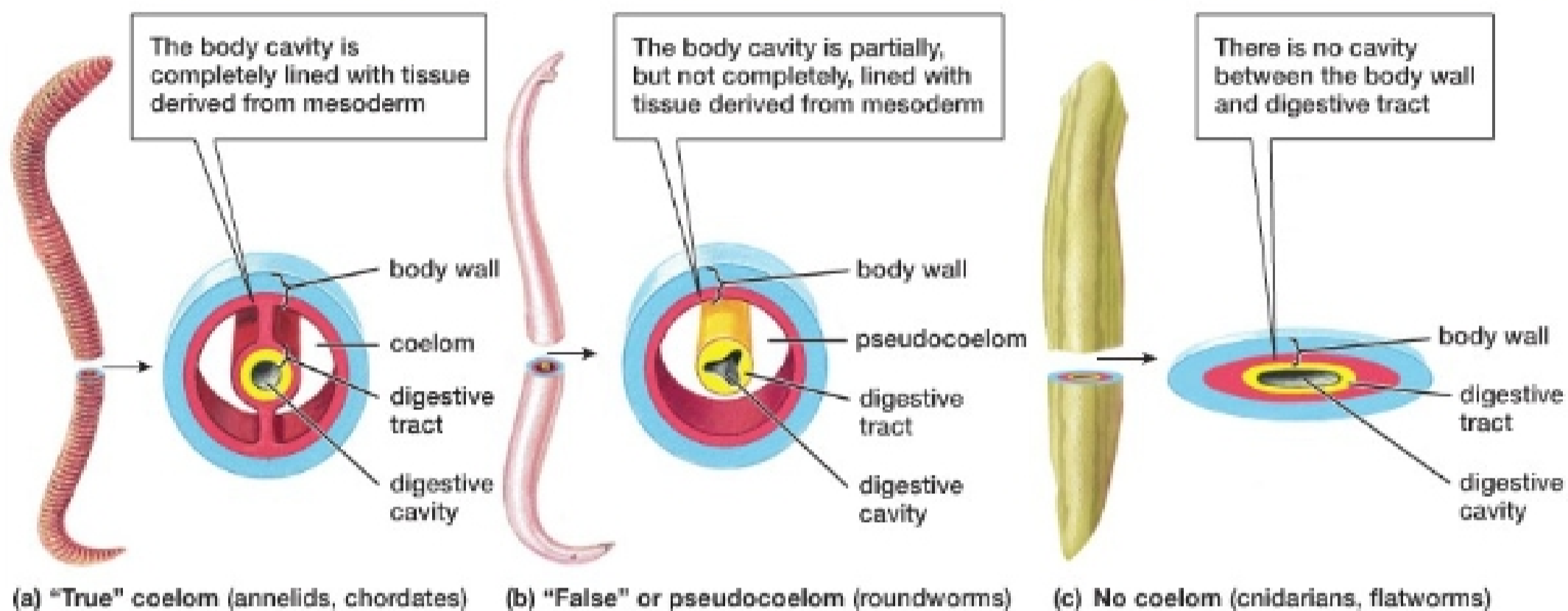


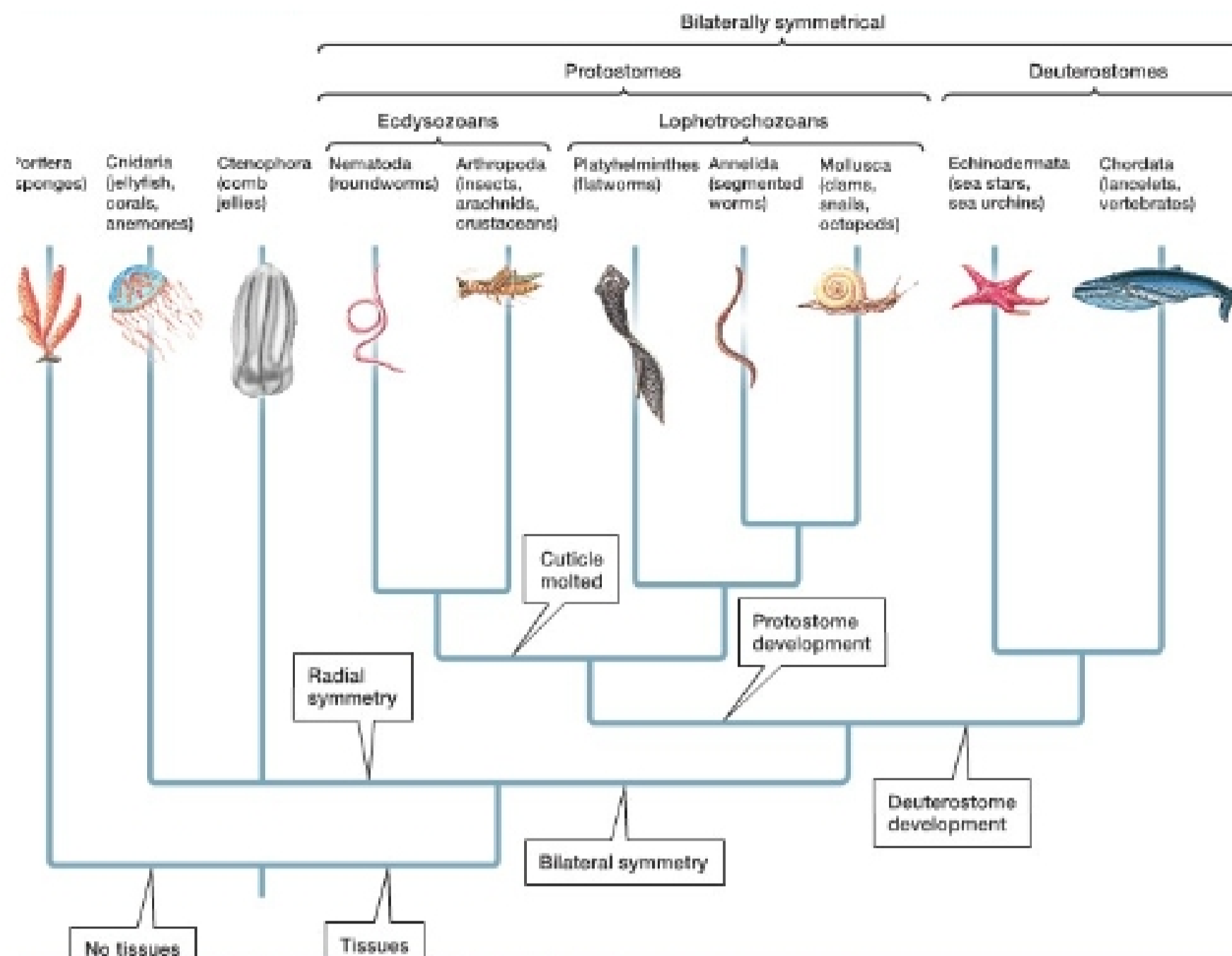
Topic list for Test 3 (Note: Underlined topics have been modified or added)

Chapter 23

1. The groups that make up the protostomes - Ecdysozoans/Lophotrochozoans
 - a. Ecdysozoans
 - i. Out layer of body is shed periodically
 - ii. Anthropoda & Nematoda (arthropods, and round worms)
 - b. Lophotrochozoans
 - i. Special feeding structure - *lophophore*
 - ii. Platyhelminthes, annelida, Mollusca (flat worms, segmented worms, mollusks)
2. Body cavities
 - a. No coelom - no body cavity (accoelommates)
 - b. Pseudocoelom - have body cavities that are not fully lined with tissue from mesoderm
 - c. True coelom - has a fully lined cavity from mesoderm (coelommates)



3. Identify the phylum by figure (diagrams)



4. This animal belongs to which group? (pictures)
5. Identify phyla by their members
6. Identify the phylum by characteristics.
7. Protostomes and Deuterostomes

Chapter 24

8. Chordata characteristics

- a. Nerve cord - lies above digestive tract on upper/dorsal portion of body, unlike other animals; becomes thick at one end → brain
- b. Notochord - stiff, but flexible rod running the length of the body between the digestive tract and nerve cord; provides support, usually only present in early development til skeleton takes over
- c. Gill slits - in some, slits form gills; in others, only present in early embryonic development
- d. Tail - posterior extension that continues past the anus

9. Tunicates (sea squirts) and Lancelets characteristics (similarities and differences)

- a. Tunicates - form a larger group of marine invertebrate chordates ; small
 - i. Sea squirts - Immobile, filter- feeding, vase-shaped
 1. Much of its body is taken up by its pharynx
 2. Water enters sea squirt's body thru *incurrent siphon* → passes into pharyngeal basket at its top → moves thru gill slits → exits thru *excurrent siphone*
 3. Can send a jet of seawater into the face of anyone who disturbs it
 4. Adults = immobile ; their babies swim, some swim thru out their whole life (ex: salps)
- b. Lancelets - small, fish like, retain all 4 chordate features as adults
 - i. Spend most of its time as adults with half its body buried in the sand; cilia in pharynx draws seawater into lancelets mouth → water passes thru

pharyngeal gill slits → film of mucus filter tiny food particles from water → captured food transported to lancelet's digestive tracts

10. The clades of the Chordata

- a. Tunicates
- b. Lancelets
- c. Craniates - include all chordates that have a skull that encloses the brain
 - i. Earliest known craniates resembled lancelets but had brains, skulls, & eyes, also lacked jaws
 - ii. Today, craniates include *hagfishes and the vertebrates*

11. Hagfish and lamprey characteristics (similarities and differences)

- a. Hagfish - external fertilization, gills, 2 chamber hearts, ectothermic
 - i. Lack jaws (have tongue-like things with teeth)
 - ii. Body stiffened by notochord but skeleton is a few small cartilaginous elements
 - iii. Not considered vertebrates b/c they lack skeletal elements around nerve cord
 - iv. Live near ocean floor, burrow in mud, feed on worms & dead fish
 - v. Secrete slime
- b. Lamprey - external fertilization, gills, 2 chamber heart, ectothermic
 - i. Lack jaws ; has large, round sucker around its mouth
 - ii. Single nostril on top of its head
 - iii. Nerve cord surrounded by cartilage = true vertebrate
 - iv. Live in freshwater & salt water
 - v. Some are parasitic

12. Diversity of fish (cartilaginous and bony), amphibians, and reptiles (characteristics)

- a. Cartilaginous fish
 - i. Have jaws
 - ii. Whole skeleton made of cartilage
 - iii. Internal fertilization (male deposits sperm into female's reproductive tract)
 - iv. Some are large
 - v. Some swim to circulate water, some pump water across gills
 - vi. Sharks - some filter feed, most are predators
 - vii. Skates & rays - bottom dwellers, flat bodies, eat invertebrates,
- b. Bony fish
 - i. Ray-finned fishes
 - ii. Freshwater and oceans
 - iii. Webbed fins supported by a bone skeleton
 - iv. Interlocking scales provide protection and flexibility
 - v. Swim bladder, evolved from lungs, lets them float anywhere
 - vi. Diverse: eels, flounders, bottom feeders, predators, reef dwellers, deep sea dwellers, mola, infantfish
 - vii. Important food source for humans
- c. Coelocanths & lungfishes
 - i. Lungfish have gills and lungs
 - ii. Live in stagnant water (lungs allow them to get oxygen)
 - iii. Burrow into mud
 - iv. Both called "lobefins" b/c they both have fleshy fins that have bones surrounded by muscle
- d. Tetrapods - amphibians, reptiles, and mammals (evolved fins that could be used as legs in emergencies)