

SUPPLEMENTAL INSTRUCTION FOR SURVEY OF BIOLOGY by Richard X. Thripp

Week 14, Fall 2009, Dec 1 / 2 / 3. Animals Evolve ch. 17. daytonastate.org/biology

- 1.) What is the ONLY animal phyla that lacks true tissues? _____ a.k.a. sponges
- 2.) _____ symmetry is like a pot, found in phyla cnidaria and echinodermata (as adult).
- 3.) _____ symmetry is a lobster, shovel, or a human face.
- 4.) Flatworms, roundworms, mollusks, annelida, arthropoda, and chordata are all animal phyla with _____ symmetry. Flatworms have a ___-hole body plan; the others have ____.
- 5.) An animal must have ____ tissue layers to have a coelom (body cavity): the mostly external _____derm, the middle _____derm, and the innermost digestive _____derm.
- 6.) “Pseudo” is the Greek prefix for fake, so a pseudocoelom is between the middle and innermost digestive layers (_____derm & _____derm). Platyhelminthes (_____worms) are pseudocoelomate.
- 7.) A _____ coelom is totally in the mesoderm. Animals with this are known as eucoelomate.
- 8.) Place these Animalae characteristics in order of evolution #1 through #4:
#__ Multicellularity #__ Body cavities #__ Bilateral symmetry #__ True tissues
- 9.) Jellyfish (medusa) and sea anemone (polyp) are in phylum _____, which means they have _____ symmetry, a 1-hole body plan, and only two tissues (and thus no coelom).
- 10.) Phylum _____ are the simplest bilateral animals (blood flukes & tapeworms).
- 11.) The first phylum with a complete digestive tract (2 holes) is _____ (roundworms).
- 12.) Most seashells come from phylum _____: soft-bodied animals protected by a hard shell.
- 13.) The three main classes of [Ans. 12] are _____ (single spiral shells), _____ (divided shell, i.e. clams), and _____ which may or may not have a shell (octopuses).
- 14.) Segmented worms are phylum _____, including leeches and earthworms.
- 15.) Phylum _____, the most diverse animal phylum, is named for its jointed appendages (legs, pincers, fins, etc.). Have segments and appendages, covered by an _____.
- 16.) _____ such as grasshoppers and mosquitoes are the most diverse group of arthropods.

- 17.) Phylum _____ has a water vascular system for gas exchange and elimination. Includes sea stars, sand dollars, sea urchins. This phylum is closest to Chordata because both develop an anus before a mouth in the growing embryo, unlike Mollusks, Annelida, and Anthropoda.
- 18.) Phylum _____ has 4 distinguishing characteristics: a hollow _____ nerve chord (brain and spinal chord in humans), a _____ chord (backbone in humans), _____ slits (seen in developing human babies), and a _____ tail (the coccyx a.k.a. tailbone in humans).
- 19.) Lancelets and tunicates are _____ chordates (no backbone).
- 20.) Mammals, birds, reptiles, amphibians, fish with cartilage (sharks), and bony fish are part of phylum chordata, subphylum _____ (backbone). (still at the DK **P** COFGS level).
- 21.) You must know 7 classes (DKP **C** OFGS) under phylum _____, subphylum vertebrata.
- 22.) Class _____, early vertebrates who lacked jaws such as lamprey.
- 23.) Class _____, cartilaginous fish such as sharks, skates, and rays.
- 24.) Class _____, bony fish with a bony operculum covering gills (trout, salmon).
- 25.) Class _____: moist skin with many glands; land and water adaptations (frogs).
- 26.) Class _____: scales to retain water, air-breathing, and amniotic eggs (leathery shells). Most are cold-blooded and lay eggs. Includes crocodiles, snakes, turtles, lizards, tuatara.
- 27.) Class _____ (think aviation, aviary = big bird cage), which have feathers. Birds are warm-blooded and lay eggs, but do not necessarily fly (ostriches and penguins). Pigeons, owls, robins, etc.
- 28.) Class _____, which have hair and mammary glands to make milk to feed babies. Includes humans, monkeys, kangaroos, bats, cows, bears, whales, dogs, cats, zebras, etc.
- 29.) _____s evolved from lobe-finned fishes to colonize land.
- 30.) Class Mammalia has 3 major groups: _____, the egg layers (5 species), and the mammals with placentas (~5395 species) divided into _____ (pouched animals like kangaroos and koalas) and eutherians (more nurturing placentas, i.e. humans, rodents, and zebras).
- 31.) The “handy” man is Homo _____, who made stone tools and had bigger brains than us.