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Exam 2 Redemption

Question 3. *The correct answer is a.* Answer e is incorrect because the coelom forms after the archenteron. The coelom is the space between parietal layer and the visceral layer. Answer a is correct because the archenteron is the primitive gut that follows the hole, known as the blastopore. During early development of bilateria, the blastopore develops into the mouth for protostomes and into the anus for deuterostomes.

Question 4. *The correct answer is d.* Answer c is incorrect because a stylet is a primitive piercing mouth-part that can be useful for feeding found in some nematodes. Answer d is correct because a Statocyst is a balance sensory receptor present in some aquatic invertebrates, like bivalves. This is not used for feeding. All of the other are for feeding.

Question 6. *The correct answer is c.* Answer d is incorrect because torsion occurs before the gastropod becomes a fully developed adult. Answer c is correct because torsion is the rotation of the visceral mass in *larval* gastropods. Not adults.

Question 7. *The correct answer is c.* Answer a is incorrect because leaves stems and roots generally represent the plant structure as a whole, rather than a modular unit of a plant. Answer c is correct because a plant's phytomere is a modular unit of a plant. In essence, I like to think of it as a branch of a tree. It consists of a leaf, an internode which connects different stem nodes together, and an axillary bud at the base of a leaf.

Question 14. *The correct answer is c.* Answer a is incorrect because Planaria and comb jellies are acoelomates. Earthworms and Leeches are segmented. That leave nematodes as the non-segmented pseudocoelomates.

Question 17. *The correct answer is e.* Answer d is incorrect because protostomes undergo spiral cleavage during embryogenesis. Protostomes undergo determinate cleavage, which means that cell's fate is decided early on. They become specialized and cannot change.

Question 18. *The correct answer is a.* Answer d is incorrect because flame cells are specialized excretory cells in platyhelminthes. Shiny spheres are specialized cells in Placozoans that play an anti-predatory role.

Question 22. *The correct answer is c.* Answer a is incorrect because Veliger is the larval stage of Bivalves. Miracidia is the larval stage of the flatworms.

Question 23. *The correct answer is b.* Answer c is incorrect because

Miracidia is the larval stage of Trematoda. Planulae is the larval stage of Cnidarians.

Question 24. *The correct answer is a.* Answer b is incorrect because Planulae is the larval stage of Cnidarians. Veliger is the larval stage of Bivalves.

Question 27. *The correct answer is e.* Answer a is incorrect because microsporophylls are in fact modified leaves in seedless vascular plants that bear the microsporangia. The pollen tube cells does divide into 2 sperm cells. The male gametophytes produce pollen as their gametes. And antheridia produce motile sperm. So none of the statements are false.

Question 28. *The correct answer is d.* Answer c is incorrect because Ctenophores do not have bilateral symmetry. Coral are part of bilateria and have bilateral symmetry.

Question 42. *The correct answer is d.* Answer e is incorrect because Cercariae are a larval stage in a fluke that travels from intermediate host to intermediate host. Chaetae is the correct answer because they are called seta in earthworms which perform oligochaete movement. Chaetae are bristles that allow these organisms to drag themselves along the ground.

Question 50. *The correct answer is b.* Answer a is incorrect because the auricles are also used to sense touch. Epitokes use eyespots to detect when they reach the surface to release eggs and sperm into the water.

Question 53. *The correct answer is b.* Answer d is incorrect because a male octopus must insert his hectocotylus into the mantle cavity of the female. Broadcast spawns involves shooting the eggs and sperm into the water. So they don't stay in the female. Cephalopods flash colors in order to determine if a partner is ready to mate.

Question 54. *The correct answer is d.* Answer a is incorrect because Strobili are found in land plants. They are used to hold sporangia-bearing stems. Protonemata can be thalloid, which are broad and leaf-like.

Question 56. *The correct answer is b.* Answer c is incorrect because intertidal is the sea shore that is covered during high tide and uncovered during low tide. Pelagic refers to the area of ocean not near the bottom or near the shore. So that means open ocean.

Question 57. *The correct answer is d.* Answer e is incorrect because most seed plants are homosporous, meaning they produce only one type of spore.

Question 59. *The correct answer is c.* Answer b is incorrect because blastulation is when the blastocoele is formed. The coelom is used with the hydrostatic skeleton in annelids for transportation.

Question 64. *The correct answer is c.* Answer a is incorrect because bivalves don't even have a longitudinal muscle. The correct answer is Adductor muscle because they use a combination of blood pressure and the adductor

muscle to borrow into the sand.

Question 65. *The correct answer is c.* Answer b is incorrect because the charophytes don't have exine as a root-like structure. That is not a way they are similar to land plants. Exine is used as a protective shell to protect pollen grains.