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## Apologia biology module 11 study guide

Microsoft Ready Slide: Sponge Ready Slide: Hydra Ready Slide: Planer Color Pencils Natural Sponges (optional) Dissecting tools and tray that you have prepared with your dissecting kit Email module #11 - Invertebrates read 329-331 (1) pp. 329-331, Symmetry First to learn a little about symmetry. If something is symmetrical, it is usually thought to be the same on both sides. In fact, there is more than one type of symmetry. Spherical symmetry is when an organism can be cut into two equal halves with each incision flowing through its centre. The bullet has spherical symmetry. That's easy, isn't it? Radial symmetry is when an organism can be cut into two equal halves with any longitudinal cut through its centre. It's possible from the top, every incision. Just like the oatmeal box can be cut from the top with any incision that runs straight down through the center. Two-sided symmetry is when an organism can be cut into two equal halves with one longitudinal incision (only one option, but not any longitudinal incision as in radial symmetry) along its centre, which divides it to the right and left half. (Source) If you think about the names of these types of symmetry, you can easily see why they are so-called. A lot of things have bilateral symmetry. You can probably look around and see a few things. You even have bilateral symmetry. Probably not exactly, because both sides of everyone's faces aren't an exact replica. So these symmetrical distinctions are not perfect. The internal organs are not the same on either side of the body either. Notice the above expressions on the crustaceans: Dorsal - which refers to the back, or it appears to be the top if the animal is not upright as a human, but has its back. Like a back fin on the back of a fish. Ventral - which refers to the anterior, or abdomen side of the organism. The anterior - before, or end, containing the head of the organism. Posterior - in the back, or at the end, containing the tail of the organism. The shark has a front neck fin and a front neck fin. This shows which one is ahead of the other; They're both on their backs. Something may also be the front part of another part of the body, which means it's in front of you, and a posterior to another part of the body would mean it's in the back. read 331-335 ex. 11.1 2) p. 332-335a, Phylum Porifera: The Sponges Did You Know They're Real les Animals? Really! These aren't plants. They can't think; they have no internal organs, blood, eyes or ears, but they can reproduce, digest food and protect themselves. If you have a sponge from the ocean, don't live anymore. You'd have to stay in the ocean in your environment so i could eat and stay alive. What a sponge it is: read 335-342 ex. 11.2 (3) p. 335-341, Phylum Cnidaria There are 2 Multi-media Companion CD videos to watch for this section. Members phylum have two basic forms, polyp and meduzo. In polystic form, the cnidarian (nih dahr' ee un) is tubelike with mouths and tentacles at one end and on the other a basal disk. The basal disk just means it's circular in the base, often used to attach to something, and there are no openings. Like the stelez of celer. In the form of a medusa there is free swimming, with a bell shaped body and tentacles. (You may have heard of Meduzo from Greek mythology -- ewww!) It is in this form that we often think of the honeys, although the honey has a stage polyp. ► See the life cycle diagram of the 7th edu/ Phylum Cnidaria members have some characteristics that are common to all members of this fitum. Epithelial, mesothelies and nematocyte and more. Read str. 356-357 to understand what they are. If you've ever been biting a honey, it's easy to understand about the nematocysti. One of them me up, but it was mild. I was in the Gulf of Mexico. There's water so warm! But where we were, there was a lot of honey. They looked like bright white blobs floating aimlessly beneath the surface of the water. We liked the warm water! But he didn't stay long for the medusa. Cnidarians don't all get it because of touch. Some will only eat because of the chemical reaction. The medusas or hydras will jam everything they touch. The sea anemone (uh nim'uh nee)will only be eaten because of a chemical reaction. For this reason, there will be no scant clown fish for example. In search of Nemo, clown fish would live in a sea anemone. Click for video of the release of nematocists. read 342-347 (4) p. 342-347, Phylum Annelida This fitum is made from worms. There are quite a few types of worms, so much in fact that this fitum is from just one species - a segmented worm. A worm that looks like it's in segments, or a few segments. Earthworm is perhaps the most common; At least that's what I think of when I think of a segmented worm. Which I don't think about very often! ⇒ Earthworm has the front end, and the rear end. The front end is where the mouth is, and is usually a little more pointy. The clitoris is closer to this end. The back is over, where... posterior is located! ⇒D (Look back on the bilateral symmetry of crustaceans to see anterior and posterior. We also know that the backs are fine on the back of the fish because the dorsal means backwards.) It's only if we look at parts of the eml's mass that we realize there's a lot more in the eml's lubricants than you might think! Once again, I marvel at the Creator and his plans. ⇒) I couldn't find a video that crossed the habit of feeding earthworms, or respiratory, hecqueroid and reproductive systems. So you're going to have to study. &lt; gasp! Writing words as you go will help a lot. Here's a close-up. You can see the setae, which are small bristles. Maybe you've already felt them. This is what earthworm uses to help move. read 347-350 ex. 11.1 (worm secing here and here) (5) pp. 347b-350a, Experiment 11.3, Earthworm Dissection Earthworm Anatomy After dissection: -Squirmin' Herman Worm - review the parts, then do the quiz. - See if you can mark parts of this worm. (a little harder) read 350-352 ex. 11.4 (6) p. 350-352, Phylum Platyhelminthes: Planarian Wow, planarians are really flat! The mountaineers have bilateral symmetry. read 352-356 (7) p. 352b-354, Phylum Nematoda This fitum is made from parasites. The most common name for one parasite is ringworm. The other is Trichinella spiralis, worms that live in the guts of pigs and some other wildlife. These can only be disposed of by extremely cold or extremely hot temperatures. Therefore, it is important to practice careful handling of raw meat and cook thoroughly. There were certain laws in the Old Testament that we may seem drastic today. For example, they weren't allowed to eat pork. Leviticus 11:7 says: And the bastards, even though he splits the kote and he dresses, and yet no cheweth is not cud; it's unclear to you. But these laws were for protection. God knew that people then did not have the resources we are doing today to ensure proper processing of meat. (8) p. 354b-356, Phylum Mollusca This fitum contains many organisms in addition to snails such as mussels, oysters, eggs, etc. Snails are a good example. Study your textbook for different parts of the snail, then watch how the snail uses its radulo to eat the salad. The full study guide Interesting links related to Module #11 Monterey Bay Aquarium Virtual Tour of the famous Monterey Bay Aquarium.Site includes live camera images and video of creatures explored in Module 11.Contains evolution of content. Brain corals The perfect image of this fascinating coral colony. The painting is worth a look. Midwater Medusae Great set illuminated images of the honey. This site really helps the student appreciate the beauty of this group of organisms. Links that provide additional help for themes in module #11 Vertebrates and Invertebrates The site offers the student several links to different sites regarding animal classification and characteristics. It contains evolution. Phylum Porifera Sponges are a diverse group of sometimes common species, with about 5000 species known around the world. The spons are mainly marine, but there are about 150 species living in freshwater. The spons have a cellular organization, which means that their cells specialize in different cells perform different functions, but similar cells are not organized in tissues and the bodies are of some kind the addition of different cell types. This wonderful website from the Web of Animal Diversity provides a detailed look at the fitum and its organisms. Spicules and spongin sponges are supported by either spicules or spongin. This page shows the composition and explains the function of spicules and spongin. Microscopic view of the porifeed cell wall The sponge is usually separated into three layers: the outer layer is the heith of the heith, the inner layer are the inner cells, the mesenhim between these two layers. Amebocyths are cells that care for digestion and exchange gases with tissue and surroundings. They travel freely through the mesenchyma and carry nutrients and gases from place to place. This page shows the interplay between layers and amebocyte. Phylum Cnidaria Phylum Cnidaria includes such diverse shapes as honeys, hydrates, sea anemones and corals. This wonderful website from the Animal Diversity Web offers a detailed look at the phylum and its organisms. Contains the evolutionary content of non-comated nematocyst graphics shows nondischarged nematocyst hydra. Omitted nematocist Graphics shows omitted nematocist hydra. Phylum Annelida Annelida Annelids include earthworms, polychaete worms, and sketches. All members of the group are segmental to some extent, in other words, which are made of segments formed by subsoles that partially carry the body cavity. This wonderful website from the Animal Diversity Web offers a detailed look at the phylum and its organisms. Contains the evolution of earthworm dissecting 1 content On this site to dissecte earthworms click on the name of the structure to see the image with this structure that has been inauthorted. Earthworm dissection 2 The images on this page are designed to help you review the materials you have studied in the lab. These images can be most useful to you if you try to identify the highlighted structures before you click to get answers. Page Summary page Page Summary about the metabolism of flat ossies and culture requirements. I use this page as a classroom overview tool. Phylum Platyhelminthes Flatworms are unsegmented, bilaterally symmetrical worms that do not have coel (acoelomate) but have three germ layers. Some forms are free to live, but many are parasitic. A great site for extended learning about this amazing phylum. It contains the evolution of the contents of the Roundworms Superior roundworm information page from the veterinary health website. Trichinella spiralis Unlike many parasites that show a high degree of host specificity, Trichinella spiralis, trichina worm, can be found in many species of meat and thuff. Animals are infected with T. spiralis when they ingest infectious larvae (juveniles) in raw or unfyed meat. For complete die-dead trichina cyst worms in pork, meat should be frozen at 5 oF for 21 days or -22 oF for 25 hours. It is clear that such processing was not people of the Old Testament; So God decided to protect his people from trichinosis by simply banning them from eating pork. It contains the evolution of Phylum Mollusca Mollusca Mollužci are an interesting group. This fantastic website from Animal Diversity Web offers eleven pages of images. Contains the evolution Mollusca This site offers an excellent list of additional resources for this phylum. Advanced topics related to the Animalia #11 The Animalia Module All animals are members of the Kingdom of Animalia, also called Metazoa. This kingdom does not contain prokariot (kingdom of Monera, includes bacteria, blue-green algae) or antist (Kingdom protista, includes single-celled eukaryotic organisms). All animalia members are multi-cellular and all are heterotrophistro (i.e. they rely directly or indirectly on other organisms for their diet). Most eat food and digest it in the inner cavity. This site helps the student explore the kingdom. Great pictures and sound bites on this site. It contains the evolution of the content of Kingdom Animalia: Cnidaria - Radical symmetrical animals At the college level discussion of fitu. It has some excellent connections that need to be monitored for different organisms. Muscle earthworms have circular muscles that stretch their body. They also have longitudinal muscles that bowl their bodies. The human muscle is one of two exciting tissues of the body. Its main function is to ensure the movement of the body and movement of structures within the body. In addition to these activities, the muscles also serve some protective functions, especially in the anterior abdominal wall. This website helps the student to see a structural resemblance to earthworm and human muscle tissue. The Classics of Biology: Planaria This website contains a good discussion about the planning. It contains the evolution of Live Hydra content If your student wants more laboratory work, here's a resource from which you can order live hydra for growth and observation. Live Planaria If your student wants more laboratory work, here's a source from which you can order a live planaria. Living organisms Source for many different types of living organisms. They use the old name Coelenterates. cnidarians.