

Module 11

Exploring Creation With Biology, 2<sup>nd</sup> Edition

Invertebrates (in vur' tub brates) - Animals that lack a backbone (329)  
Vertebrates (vur' tub brates) - Animals that possess a backbone (329)  
Spherical symmetry - An organism possesses spherical symmetry if it can be cut into two identical halves by any cut that runs through the organism's center. (330)  
Radial symmetry - An organism possesses radial symmetry if it can be cut into two identical halves by any longitudinal cut through its center. (330)  
Bilateral (bye lafuh ruhl) symmetry - An organism possesses bilateral symmetry if it can only be cut into two identical halves by a single longitudinal cut along its center which divides it into right and left halves. (330)  
Epidermis (epuh dur' miss) - An outer layer of cells designed to provide protection (333)  
Mesenchyme (mes' uhn kime) - The jelly-like substance that separates the epidermis from the inner cells in a sponge (333)  
Collar cells - Flagellated cells that push water through a sponge (333)  
Amebocytes (uh mee' buh sites) - Cells that move using pseudopods and perform different functions in different animals (333)  
Gemmule (j'em' yool) - A cluster of cells encased in a hard, spicule-reinforced shell (334)  
Polyp - A sessile, tubular form of a cnidarian with a mouth and tentacles at one end and a basal disk at the other (335)  
Medusa - A free-swimming cnidarian with a bell-shaped body and tentacles (335)  
Epithelium (ep ih thee' lee uhm) - Animal tissue consisting of one or more layers of cells that have only one free surface, because the other surface adheres to a membrane or other substance (336)  
Mesoglea (mez uh glee' uh) - The jellylike substance that separates the epithelial cells in a cnidarian (336)  
Nematocysts (nih mat' uh sists) - Small capsules that contain a toxin which is injected into prey or predators (337)  
Testes (test' ez) - Organs that produces sperm (339)  
Ovaries (oh'vuh reez) - Organs that produces eggs (339)  
Anterior end - The end of an animal that contains its head (343)  
Posterior end - The end of an animal that contains its tail (343)  
Circulatory system - A system designed to transport food and other necessary substances throughout a creature's body (344)  
Nervous system - A system of sensitive cells that respond to stimuli such as sound, touch, and taste (345)  
Ganglia (gan' glee uh) [singular: ganglion]- Masses of nerve cell bodies (345)  
Hermaphroditic - Possessing both the male and the female reproductive organs (345)  
Regeneration-The ability to regrow a missing part of the body (351)  
Mantle - A sheath of tissue that encloses the vital organs of a mollusk, makes the mollusk's shell, and performs respiration (354)  
Shell - A tough, multilayered structure secreted by the mantle, generally used for protection, but sometimes for body support (354)  
Visceral (vis' ur ul) hump - A hump that contains a mollusk's heart, digestive, and excretory organs (354)  
Foot - A muscular organ that is used for locomotion and takes a variety of forms depending on the animal (355)  
Radula - An organ covered with teeth that mollusks use to scrape food into their mouths (355)  
Univalve - An organism with a single shell (355)  
Bivalve - An organism with two shells (355)

Module 12

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Exoskeleton - A body covering, typically made of chitin, that provides support and protection (361)  
Molt - To shed an old outer covering so that it can be replaced with a new one (362)  
Thorax (thor' aks) - The body region between the head and the abdomen (362)  
Abdomen - The body region posterior to the thorax (362)  
Cephalothorax (sefuh loh thor' aks) - A body region comprised of a head and thorax fused together (362)  
Compound eye - An eye made of many lenses, each with a very limited scope (363)  
Simple eye - An eye with only one lens (363)  
Open circulatory system - A circulatory system that allows the blood to flow out of the blood vessels and into various body cavities so that the cells are in direct contact with the blood (364)  
Statocyst (stat' uh sist) - The organ of balance in a crustacean (370)  
Gonad - A general term for the organ that produces gametes (371)  
Complete Metamorphosis - Insect development consisting of four stages: egg, larva, pupa, and adult (384)  
Incomplete Metamorphosis - Insect development consisting of three stages: egg, nymph, and adult (384)

Always do the On Your Own questions and check your work afterwards.

Module 13

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Vertebrae (ver' tuh bray) - Segments of bone or some other hard substance that are arranged in a backbone (393)  
Notochord (no' tuh kord) - A rod of tough, flexible material that runs the length of a creature's body, providing the majority of its support (393)  
Endoskeleton (en doh skel' uh tuhn) - A skeleton on the inside of a creature's body, typically composed of bone or cartilage (396)  
Bone marrow - A soft tissue inside the bone that produces blood cells (397)  
Axial skeleton - The portion of the skeleton that supports and protects the head, neck, and trunk (398)  
Appendicular (ah pen dihk' you luhr) skeleton - The portion of the skeleton that attaches to the axial skeleton and has the limbs attached to it (398)  
Closed circulatory system - A circulatory system in which the oxygen-carrying blood cells never leave the blood vessels (399)  
Arteries - Blood vessels that carry blood away from the heart (399)  
Capillaries - Tiny, thin-walled blood vessels that allow the exchange of gases and nutrients between the blood and cells of the body (399)  
Veins - Blood vessels that carry blood back to the heart (399)  
Olfactory lobes - The lobes of the brain that receive signals from the receptors in the nose (400)  
Cerebrum (suh ree' bruhm) - The lobes of the brain that integrate sensory information and coordinate the creature's response to that information (400)  
Optic lobes - The lobes of the brain that receive signals from the receptors in the eyes (400)  
Cerebellum - The lobe that controls involuntary actions and refines muscle movement (400)  
Medulla oblongata (muh dul' uh ahb lawn gah' tuh) - The lobes that coordinate vital functions, such as those of the circulatory and respiratory systems, and transport signals from the brain to the spinal cord (400)  
Internal fertilization - The process by which the male places sperm inside the female's body, where the eggs are fertilized (401)  
External fertilization - The process by which the female lays eggs and the male fertilizes them once they are outside of the female (401)  
Oviparous (oh vip' ur us) development - Development that occurs in an egg that is hatched outside the female's body (402)  
Ovoviviparous (oh vo vye vip' ur us) development - Development that occurs in an egg which is hatched inside the female's body (402)  
Viviparous (vye vip' ur us) development - Development that occurs inside the female, allowing the offspring to gain nutrients and vital substances from the mother through a placenta (pluh sent' uh) (402)  
Anadromous - A life cycle in which creatures are hatched in fresh water, migrate to salt water as adults, and then go back to fresh water in order to reproduce (403)  
Bile - A mixture of salts and phospholipids that aids in the breakdown of fat (411)  
Atrium (ay' tree uhm) - A heart chamber that receives blood (413)  
Ventricle (ven' trih kul) - A heart chamber from which blood is pumped out (413)  
Ectothermic (ek toh thur' mik) - Lacking an internal mechanism for regulating body heat (413)  
Hibernation - A state of extremely low metabolism and respiration, accompanied by lower-than-normal body temperatures (420)