

Section Review 26-1

1. multicellular **2.** eukaryotic **3.** cell walls **4.** heterotrophs **5.** When an animal respire, it takes in oxygen and gives off carbon dioxide. **6.** A circulatory system moves materials around the body. **7.** Waste products must be excreted because they are toxic. **8.** Muscles and musclelike tissues generate force by becoming shorter when stimulated. **9.** Sexual reproduction helps create and maintain genetic diversity in populations, perhaps enabling them to evolve when the environment changes. **10.** Complex animals tend to have specialized cells and internal organization. They also have bilateral symmetry, cephalization, and a body cavity. **11.** In both organisms, the blastopore is an opening that becomes a central tube and then a digestive tract. The blastopore of a protostome becomes a mouth. The blastopore of a deuterostome becomes an anus. **12.** Animals with bilateral symmetry have a body that can be divided into two mirror-image halves. They usually have a front and back end and an upper and lower side. Animals with radial symmetry have bodies through which any number of imaginary planes can be drawn, each dividing the body in half. **13.** Usually, a greater degree of cephalization indicates a more complex animal.

Section Review 26-2

1. animal **2.** heterotrophs **3.** do not **4.** some **5.** The movement of water through the sponge enables the sponge to carry out feeding, respiration, circulation, and excretion. **6.** A sponge has collar cells that use flagella to move a current of water through the sponge. **7.** Sponges filter food from water. Digestion is intracellular. **8.** Sponges reproduce sexually when currents carry the sperm of one sponge to another sponge, where fertilization occurs. In asexual reproduction, part of one sponge breaks off and begins to grow on its own. This is different because no genetic material is exchanged between sponges. **9.** A gemmule can survive difficult conditions that would kill an adult sponge. Later, when the difficult conditions have passed, the gemmule will grow into a new sponge. **10.** Marine animals would lose the shelter they often seek among sponges, so their populations might decrease. Species with whom the sponges formed symbiotic relationships might also see a population decrease.

Section Review 26-3

1.-5. Cnidarians have soft bodies. They are carnivorous. They have stinging tentacles arranged in circles around their mouths. They have body symmetry and specialized tissues. **6.** This is the medusa stage. **7.** This is the polyp stage. **8.** The three groups of cnidarians are hydras and their relatives, jellyfishes,

and sea anemones and corals. **9.** Both statocysts and ocelli are groups of sensory cells found in cnidarians. However, a statocyst helps to determine the direction of gravity, whereas an ocellus detects light. **10.** Possible answer: Sediments eroded by logging, farming, mining, and construction can smother corals. Industrial and agricultural pollutants can poison coral. Overfishing can upset the ecological balance of the reefs.

Chapter Vocabulary Review

1. a **2.** d **3.** e **4.** g **5.** f **6.** i **7.** b **8.** h **9.** c
10. ectoderm **11.** mesoderm **12.** endoderm
13. blastopore **14.** spicule; archaeocytes **15.** larva
16. gemmule **17.** cnidocyte; nematocyst **18.** a
19. b **20.** b **21.** d **22.** c **23.** a **24.** c **25.** a

Enrichment

1. Gastrozooids specialize in feeding. Others function in reproduction. It also has poisonous stinging cells that subdue prey. **2.** Possible answer: During feeding, cnidocytes subdue prey. The tentacles are responsible for carrying the prey to the gastrozooids, which eat and digest it.

Graphic Organizer

1. gametes **2.** water **3.** fertilization **4.** larva
5. hard surface **6.** polyp **7.** budding

Exploration

Analyze and Conclude 1. Green hydras moved toward light. Brown hydras did not move toward light. **2.** Movement can occur in several ways and may or may not be fast enough to see. Movement may occur by creeping, tumbling, floating, or sinking. Green hydras moved generally toward the light. Brown hydras moved little, and apparently at random. **3.** Green hydras are more likely to move toward light. **4.** Possible student answer: This behavior provides more light to the algae that live in the green hydras, allowing them to carry out more photosynthesis. The behavior of the green hydras implies that they benefit somehow from the additional photosynthesis carried out by the algae. **5.** Possible student answer: The behavior of the green hydras provides the algae with more light. If the algae were to then provide the hydras with carbohydrates or oxygen produced during photosynthesis, this would help the hydras to survive. **6.** Possible student answer: Like more complex animals, hydras can respond to their environment in ways that help them survive, but this behavior is much simpler than that of more complex animals that have brains.