Name _____ Date _____ Class _____

CHAPTER 29 DIRECTED READING

Simple Invertebrates

▶ Section 29-1: Sponges

Sponges Are the Simplest Animals

In the space provided, write the letter of the description that best matches the term or phrase.

_____ 1. mesoglea
_____ 2. ostia
_____ 3. oscula
_____ 4. sessile
_____ 5. choanocytes
_____ 6. amoebocytes

a. large openings in a sponge's body wall through which water exits
b. permanently attached to a submerged surface
c. flagellated cells that move water through a sponge to trap plankton
d. cells that move around the mesoglea
e. gel-like substance in which specialized cells are embedded
f. tiny openings in a sponge's body wall through which water enters

Mark each statement below T *if it is true or* F *if it is false.*

_____ 7. Sponge cells are organized into tissues.
_____ 8. Sponges are classified as animals because they are mobile.
_____ 9. Amoebocytes carry nutrients and remove wastes.

Sponges Are a Diverse Phyla

In the space provided, explain how the terms in each pair differ in meaning.

10. spongin, spicules

11. calcareous sponges, glass sponges

Read each question, and write your answer in the space provided.

12. Why do sponges have skeletons?

13. What are demosponges?

Sponges Reproduce Both Asexually and Sexually

Complete each statement by writing the correct term or phrase in the space provided.

14. When living conditions become harsh, some freshwater sponges form _____, clusters of amoebocytes encased in protective coats.

15. Marine sponges reproduce asexually by _____ and _____.

16. Sperm cells from one sponge enter another sponge through its _____.

17. The egg cells reside in the _____.

18. _____ move the sperm cells into the _____, where fertilization occurs.

▶ Section 29-2: Cnidarians

Cnidarians Have Two Body Forms

In the space provided, explain how the terms in each pair differ in meaning.

1. medusa, polyp

2. tentacles, cnidocytes

Complete each statement by writing the correct term or phrase in the space provided.

3. A small barbed harpoon within each cnidocyte is called a(n) _____ .
4. Digestion in cnidarians begins outside the cell, or _____ , and is completed inside the cell, or _____ .
5. The cells in cnidarians are arranged into _____ , which are specialized cells that work together.

Hydrozoans Spend Most of Their Life as a Polyp

Complete each statement by underlining the correct term or phrase in the brackets.

6. [Hydras / Hydrozoa] live in fresh water and attach to rocks by means of a sticky secretion produced by an area called the [basal disk / endoderm].
7. Hydras can sometimes move by [tumbling / swimming].
8. Marine hydrozoans are [more / less] complex than fresh-water hydrozoans and [more / less] numerous than are fresh-water hydrozoans.
9. *Obelia* live in colonies that form when one polyp reproduces by [budding / fragmentation].
10. The sperm and egg of *Obelia* medusae fuse and produce free-swimming [planulae / gametes] that eventually settle on the ocean bottom and grow into new [medusae / polyps].

Jellyfish Spend Most of Their Life as a Medusa

Read each question, and write your answer in the space provided.

11. What is the difference between the life cycle of true jellyfish and that of *Obelia*?

_____

_____

12. Why are members of the phylum Ctenophora not considered true jellyfish?

_____

_____

Anthozoans Have No Medusa Stage

Complete each statement by writing the correct term or phrase in the space provided.

13. The largest class of cnidarians is the class Anthozoa, which exist only as _____ .
14. Some anthozoans reproduce by budding, but others release eggs and sperm into the ocean where the fertilized eggs become _____ .

15. Sea anemones reproduce _____ by slowly pulling themselves apart into two halves.

16. Most coral polyps live in colonies called _____ .

17. Each tiny coral polyp secretes a tough, stonelike outer skeleton of

_____ _____ .

▶ Section 29-3: Flatworms and Roundworms

Flatworms Exhibit Bilateral Symmetry

Complete each statement by underlining the correct term or phrase in the brackets.

1. Planarians are members of [class / phylum] Turbellaria, and they are [parasitic / free-living].
2. The members of [class / phylum] Platyhelminthes, commonly known as flatworms, exhibit [radial / bilateral] symmetry.
3. Tapeworms consist of a head with suckers and a few hooklike structures followed by a string of body sections called [proglottids / segments].
4. Flukes have a thick protective covering of cells called the [exoskeleton, tegument] that helps them avoid being digested by their hosts.

Read each question, and write your answer in the space provided.

5. Explain why flatworms do not need a respiratory or circulatory system.

_____

_____

6. Distinguish between endoparasites and ectoparasites.

_____

_____

Roundworms Have a Body Cavity

Read each question, and write your answer in the space provided.

7. Summarize the life cycle of *Ascaris*.

_____

_____

_____

8. Why is the pseudocoelom of roundworms an important evolutionary milestone?

_____

_____