

# CHAPTER REVIEW

## CONTENT REVIEW

### Multiple Choice

Choose the letter of the answer that best completes each statement.

- All animals are
  - unicellular.
  - sessile.
  - radially symmetric.
  - heterotrophic.
- A hydra is best described as a
  - herbivore.
  - carnivore.
  - parasite.
  - filter feeder.
- In which animal would you expect to observe cephalization?
  - jellyfish
  - sponge
  - roundworm
  - sea anemone
- Which animal is free-living?
  - Hydra*
  - Trichinella*
  - Schistosoma*
  - Ascaris*
- Animals in the phylum Cnidaria include
  - flukes.
  - roundworms.
  - medusae.
  - sponges.
- Which animal is most likely to possess ocelli, statocysts, and a nerve net?
  - sponge
  - jellyfish
  - coral
  - flatworm
- Which animal lacks a digestive system and digestive organs?
  - jellyfish
  - hookworm
  - planarian
  - tapeworm
- An immature animal that looks and acts nothing like the adult of that species is called a
  - gemmule.
  - larva.
  - bud.
  - proglottid.

### True or False

Determine whether each statement is true or false. If it is true, write "true." If it is false, change the underlined word or words to make the statement true.

- Invertebrates have a backbone.
- Organisms that eat animals are called herbivores.
- Flukes and tapeworms are best described as detritus feeders.
- Trichinosis is usually caused by eating flukes in raw fish.
- Planarians have bilateral symmetry.
- Sea anemones are polyps that have skeletons of calcium carbonate (limestone).
- Adult parasites undergo sexual reproduction in their intermediate host.
- Jellyfish are placed in the class Anthozoa.

### Word Relationships

In each of the following sets of terms, three of the terms are related. One term does not belong. Determine the characteristic common to three of the terms and then identify the term that does not belong.

- spicule, ganglia, osculum, collar cell
- nematocyst, epidermis, gastroderm, mesoglea
- tapeworm, hookworm, ascarid, planarian
- Porifera, Cestoda, Cnidaria, Nematoda
- dorsal, ventral, anterior, sessile
- Anthozoa, Protozoa, Scyphozoa, Hydrozoa
- multicellular, heterotroph, eukaryotic, cell walls

## CONCEPT MASTERY

Use your understanding of the concepts developed in the chapter to answer each of the following in a brief paragraph.

1. Draw a human, a sea anemone, and a dog. Label each drawing using as many of the following terms as are appropriate: radial symmetry, bilateral symmetry, anterior, posterior, dorsal, ventral, sessile, motile.
2. Suppose you placed a harmless purple-colored mixture of red dye and blue dye in the water beside a vase-shaped sponge. After a while, you noticed blue dye coming out of the top of the sponge. Describe how the blue dye got from the outside environment into the sponge. Propose an explanation for what happened to the red dye. How might you determine if your explanation about the red dye is correct?
3. Explain how flukes and tapeworms display the following parasitic adaptations: (a) organs for attachment to the host, (b) reduced sense organs, (c) modifications in food-getting, (d) increased reproductive capabilities and well-developed reproductive organs, (e) larvae that allow the transfer from one host to another.
4. At one time, diet pills containing tapeworm eggs were sold. Why would such pills work? Why are such pills dangerous?
5. State three basic trends in animal evolution in your own words.

## CRITICAL AND CREATIVE THINKING

Discuss each of the following in a brief paragraph.

1. **Interpreting diagrams** Refer to the diagram of the life cycle of a typical liver fluke to explain the following: To help prevent liver fluke infections, experts often recommend that ponds, irrigation ditches, and other bodies of water be treated with snail-killing pesticides. Why does killing snails prevent liver fluke infections in humans?
2. **Relating concepts** Flukes that are internal parasites are often facultative anaerobes. This means that although they can use cellular respiration to obtain energy from food, they usually use anaerobic processes (glycolysis and fermentation) instead. Explain how this metabolic switch hitting might be an adaptation of flukes to a parasitic lifestyle.
3. **Developing a hypothesis** You observe that a hydra that lives in fresh water often squirts water out of its mouth. Because this water does not contain particles, you assume that the hydra's behavior is not involved with the removal of solid wastes. How can you explain this behavior?
4. **Using the writing process** Write a humorous dialogue in which a person tries to explain to a tapeworm that there is no such thing as a free lunch.

