

# CHAPTER REVIEW

Ch 21

## CONTENT REVIEW

### Multiple Choice

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

- Which characteristic do many mollusks and annelids have in common?
  - segmented body
  - one- or two-part shell
  - open circulatory system
  - trochophore larvae
- One major class of mollusks is
  - Cephalopoda.
  - Hirudinea.
  - Oligochaeta.
  - Polychaeta.
- A mollusk that swims by flapping its broad, muscular foot is probably a
  - bivalve.
  - gastropod.
  - cephalopod.
  - polychaete.
- Which organ is used for both respiration and filter feeding in some animals?
  - nephridium
  - radula
  - gill
  - ganglion
- A bristly marine worm that has paired appendages on each segment belongs to Class
  - Annelida.
  - Polychaeta.
  - Oligochaeta.
  - Cephalopoda.
- An oligochaete probably
  - is a parasite.
  - has paired appendages.
  - has septa.
  - has a mantle, foot, and visceral mass.
- A scraping organ used for feeding is a
  - nephridium.
  - pharynx.
  - mantle.
  - radula.
- In earthworms, the clitellum
  - is involved in asexual reproduction.
  - secretes a cocoon for the eggs.
  - often has a pair of jaws.
  - grinds food particles into smaller pieces.

### 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.

- A pharynx is an organ used in excretion.
- Softbodied animals that typically have a shell are known as oligochaetes.
- Segmented worms belong to phylum Hirudinea.
- Pearls and the shells of mollusks are formed by secretions from the radula.
- Many leeches are blood-sucking parasites.
- Cephalopods are characterized by a one-part shell and a broad, muscular foot.
- Gastropods are usually sessile as adults.
- Hermaphrodites usually undergo external fertilization.

### Word Relationships

A. An analogy is a relationship between two pairs of words or phrases generally written in the following manner:  $a:b::c:d$ . The symbol  $:$  is read "is to," and the symbol  $::$  is read "as." For example,  $cat:animal::rose:plant$  is read "cat is to animal as rose is to plant."

In the analogies that follow, a word or phrase is missing. Complete each analogy by providing the missing word or phrase.

- one-part shell:gastropod::two-part shell:\_\_\_\_\_
- cocoon:clitellum::shell:\_\_\_\_\_
- shell:snail::nematocyst and chemicals:\_\_\_\_\_
- light detection:ocelli::balance:\_\_\_\_\_

B. Replace the underlined definition with the correct vocabulary word.

5. Octopi have a circulatory system in which the blood is always contained in blood vessels.
6. Earthworms are members of the segmented worms phylum.
7. The part of a mollusk that contains the mouth and is often used in locomotion in cephalopods is divided into tentacles.

## CONCEPT MASTERY

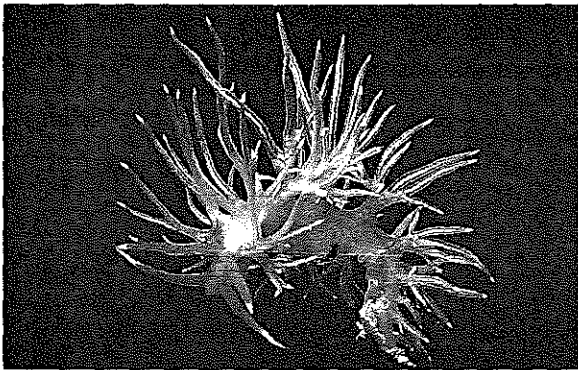
Use your understanding of the concepts developed in the chapter to answer each of the following in a brief paragraph.

1. How are mollusks adapted to different modes of feeding?
2. Compare the ways in which polychaetes and oligochaetes perform their essential functions.
3. How are clams adapted for burrowing in mud and sand?
4. How do mollusks fit into the world?
5. Explain why a person might purchase earthworms to put in a garden.

## CRITICAL AND CREATIVE THINKING

Discuss each of the following in a brief paragraph.

1. **Assessing concepts** Although a number of animals are hermaphrodites, they rarely fertilize their own eggs. Explain why cross-fertilization is usually better than self-fertilization. Under what circumstances might self-fertilization be better than cross-fertilization?
2. **Making inferences** Some oligochaetes can survive in areas that have little oxygen and can even tolerate a complete lack of oxygen for short periods of time. Some of these oligochaetes die when exposed to normal oxygen levels for a long period of time. What is probably the natural habitat of these oligochaetes? Explain.
3. **Developing a hypothesis** Female octopi die after brooding their eggs (tending and protecting eggs until they hatch). However, if certain glands near the brooding octopus's eyes are surgically removed, the octopus stops brooding, resumes feeding, and has a life span longer than the normal three to four years. Develop a hypothesis to explain this phenomenon. How might you go about testing your hypothesis?
4. **Using the writing process** Suppose that the topic of a debate is, "Resolved: It is better to be a free-swimming polychaete than a sessile one." Take either the affirmative or the negative stance and prepare a persuasive argument for your position.



Although many nudibranchs are simultaneously male and female, they do not fertilize their own eggs.