

**STUDY  
GUIDE**

CHAPTER **27**  
*Mollusks and Annelids*

**Section  
27-1**

**Mollusks**

*(pages 585-593)*

**SECTION REVIEW**

What is a mollusk? In the first part of this section you discovered that a wide diversity of animals are classified as mollusks. These animals are classified together in one phylum because all show similar features during early development and all exhibit different forms of the same basic body plan.

You then explored the wide variety of form and function among mollusks. You also learned about three classes of mollusks. Gastropods, such as snails and slugs, move by means of a

broad ventral foot; many have a one-piece shell. Bivalves, such as clams, have two shells that are joined by a hinge. Cephalopods, such as octopi and nautilus, have tentacles.

Mollusks affect humans in a variety of ways. Many mollusks are popular as food, and the oyster is important not only as a food source but as a producer of pearls. Some mollusks also impact negatively on humans by serving as intermediate hosts for parasites and by doing damage to gardens and crops.

**Relating Definitions: Building Vocabulary Skills**

Many of the important terms in this section relate to the way mollusks carry out basic life functions. Listed below are the seven basic functions that animals must carry out in order to survive. Following is a list of terms from this section. In the blank following each term, write the function or functions that the term relates to. Some functions may be used more than once, and others may not be used.

- |           |              |                    |          |
|-----------|--------------|--------------------|----------|
| feeding   | reproduction | response           | movement |
| excretion | respiration  | internal transport |          |

- |                       |                                     |
|-----------------------|-------------------------------------|
| 1. Trochophore: _____ | 6. Open circulatory system: _____   |
| 2. Foot: _____        | _____                               |
| 3. Mantle: _____      | 7. Nephridia: _____                 |
| 4. Radula: _____      | 8. Closed circulatory system: _____ |
| 5. Gills: _____       | _____                               |

**Classifying Mollusks: Understanding the Main Ideas**

Each of the following statements describes one of the three main classes of mollusks. In the blank before each statement, write a G if the statement describes a gastropod, a B if the statement describes a bivalve, and a C if the statement describes a cephalopod.

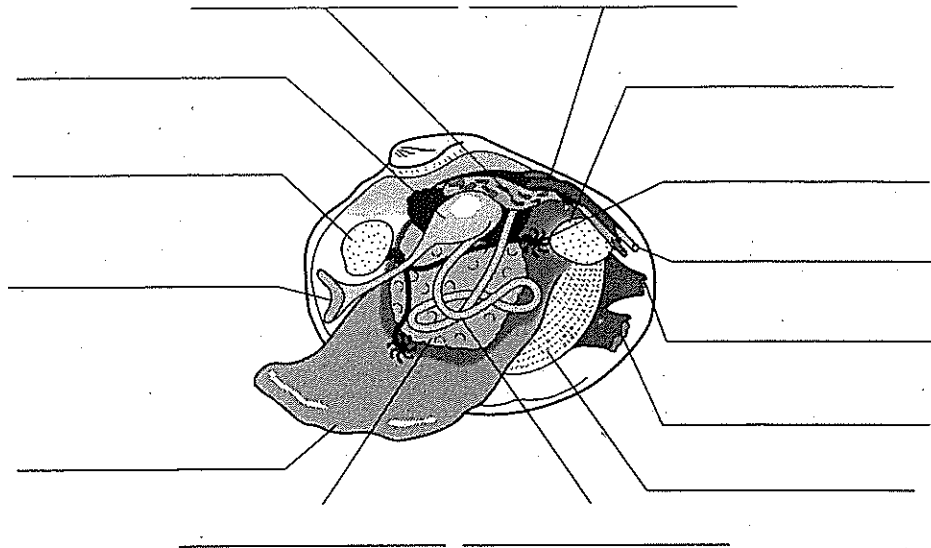
- \_\_\_\_\_ 1. Scallops are members of this group.
- \_\_\_\_\_ 2. They feed using a structure called a radula.

- \_\_\_\_\_ 3. Sometimes they produce pearls.
- \_\_\_\_\_ 4. The chambered nautilus is a member of this group.
- \_\_\_\_\_ 5. They are highly intelligent and may be more intelligent than some vertebrates.
- \_\_\_\_\_ 6. They have two shells.
- \_\_\_\_\_ 7. Members of this group use tentacles to capture their prey.
- \_\_\_\_\_ 8. Most members of this group have small internal shells or no shells at all.
- \_\_\_\_\_ 9. Most have a broad, muscular foot located on their stomach.
- \_\_\_\_\_ 10. Most are sessile, but some can move around rapidly by flapping their shells.

**Making a Diagram: Internal Structure of a Bivalve**

A clam is a typical bivalve. The diagram below shows the internal structure of a clam. Use the terms listed to correctly label the diagram.

- |                          |                           |                  |
|--------------------------|---------------------------|------------------|
| Anterior adductor muscle | Intestine                 | Stomach          |
| Gill                     | Ganglion                  | Nephridium       |
| Anus                     | Excurrent siphon          | Incurrent siphon |
| Heart                    | Posterior adductor muscle | Mouth            |
| Foot                     | Gonad                     |                  |



**Concept Mapping**

The construction of and theory behind concept mapping are discussed on pages vii–ix in the front of this Study Guide. Read those pages carefully. Then consider the concepts presented in Section 27–1 and how you would organize them into a concept map. Now look at the concept map for Chapter 27 on page 264. Notice that the concept map has been started for you. Add the key facts and concepts you feel are important for Section 27–1. When you have finished the chapter, you will have a completed concept map.

**Section  
27-2**

**Annelids**

*(pages 594-601)*

**SECTION REVIEW**

In this section you were introduced to members of the phylum Annelida. These animals, which are also known as segmented worms, include the familiar earthworm as well as about 9000 other species, such as sandworms, bloodworms, and leeches.

You learned that annelids are characterized by a long, segmented body and that they live both in water and on land. By studying in detail the earthworm's body systems, you

learned how annelids carry out essential life functions.

Annelids are important in many habitats. Small annelids that live in the ocean serve as food for other organisms. Earthworms and similar annelids are important in soil conditioning. Earthworms also perform the valuable function of processing nutrients from dead organisms into substances that can be used by plants.

 **Applying Concepts: Basic Functions in Annelids**

Complete each sentence below to describe how the indicated function is carried out by annelids. You may add additional sentences if you wish.

1. Respiration: Aquatic annelids typically breathe \_\_\_\_\_

\_\_\_\_\_

2. Internal transport: The circulatory system in annelids \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Excretion: Annelids produce two kinds of wastes. Solid wastes \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Response: Annelids have a well-developed nervous system \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Movement: Muscles in the annelid \_\_\_\_\_

\_\_\_\_\_

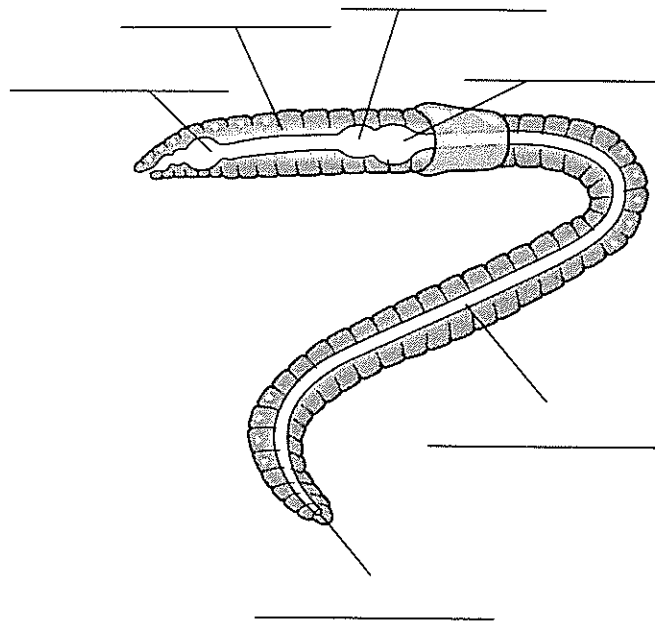
6. Reproduction: Most annelids reproduce \_\_\_\_\_

\_\_\_\_\_

**Relating Concepts: Understanding the Main Ideas**

Listed in the left column are the major organs that make up the digestive system of the earthworm. Listed in the right column are words that describe the basic function of each organ. Match each function in the right column with the corresponding organ in the left column by writing the correct letter in the blank.

- |                    |                                      |
|--------------------|--------------------------------------|
| _____ 1. Intestine | a. Chops food into small pieces      |
| _____ 2. Anus      | b. Pumps food and soil or grabs prey |
| _____ 3. Gizzard   | c. Entrance for food                 |
| _____ 4. Crop      | d. Eliminates wastes                 |
| _____ 5. Esophagus | e. Storage area for food             |
| _____ 6. Pharynx   | f. Digests food                      |
| _____ 7. Mouth     | g. Passageway for food               |



**Concept Mapping**

The construction of and theory behind concept mapping are discussed on pages vii–ix in the front of this Study Guide. Read those pages carefully. Then consider the concepts presented in Section 27–2 and how you would organize them into a concept map. Now look at the concept map for Chapter 27 on page 264. Notice that the concept map has been started for you. Add the key facts and concepts you feel are important for Section 27–2. When you have finished the chapter, you will have a completed concept map.