Name _____ Class _____ Date _____

CHAPTER 28 Mollusks and Annelids

SECTION 2

Annelids

KEY IDEAS

As you read this section, keep these questions in mind:

- What are the key characteristics of annelids?
- Which characteristics are used to classify annelids?

What Are The Key Characteristics of Annelids?

You can easily recognize an annelid by its *segments*, ring-like structures along the length of its body. Segmentation gives an annelid greater body complexity and lets it move more easily than animals without segments. Some other key characteristics of organisms in the phylum Annelida are listed below.

- a coelom
- highly specialized organ systems
- external bristles called **setae** (singular, *seta*) on most
- trochophore larva

The paired bristles, or setae, on each segment help the worm grip a surface as it moves.

Annelids have repeated body segments. Internal body walls called **septa** (singular, *septum*) separate the segments of most annelids.

Most annelids have a primitive brain made up of a pair of nerve clusters called *cerebral ganglia* (singular, **cerebral ganglion**). The ganglia connect to a nerve cord that runs along the underside of the worm's body.

READING TOOLBOX

Organize After you read, make a Venn diagram to describe and compare the three classes of annelids.

Talk About It

Compare With a partner, review the key characteristics of mollusks. Compare these with the key characteristics of annelids. What characteristics do these groups share? How do they differ?

LOOKING CLOSER

1. Identify What is the function of setae?

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How Do Scientists Classify Annelids?

Scientists group annelids in different classes based on the number of setae and the presence or absence of parapodia. *Parapodia* are flap-shaped appendages that many annelids use for gas exchange and movements, such as swimming, crawling, or burrowing. ☑

READING CHECK

2. Identify What are two main functions of parapodia?

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Classes of Annelids

Class	Key characteristics
Polychaeta (marine worms)	• parapodia present on most segments • many setae on each segment • well-developed head with eyes and other sensory structures • mostly marine • Some trap food particles from water. Others are active predators that feed on small animals.
Oligochaeta (earthworms)	• lack parapodia • only a few setae on each segment • lack a distinctive head and eyes • found on land and in fresh water • Most are scavengers.
Hirudinea (leeches)	• lack parapodia and setae • no internal separation between segments • have muscular suckers at both ends of the body • Most live in fresh water, but some live on land. • Some are parasites. Most are predators or scavengers.

LOOKING CLOSER

3. Identify Which class of annelids lacks both parapodia and setae?

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4. Compare What feature do leeches have that marine worms and earthworms do not?

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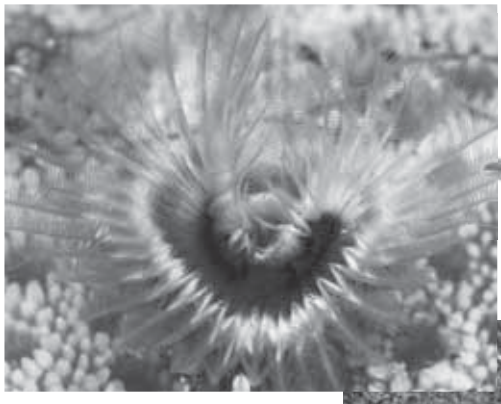
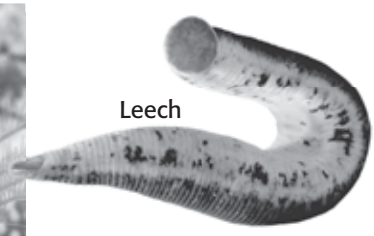
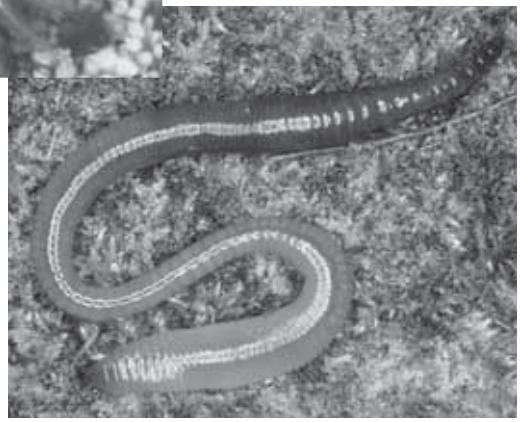
Marine worm





Leech

Earthworm



Critical Thinking

5. Define Use a dictionary to find the meanings of the following roots: *poly-*, *oligo-*, and *–chaeta*. How do the meanings of these roots apply to organisms in the classes Polychaeta and Oligochaeta?

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Name _____ Class _____ Date _____

Section 2 Review

SECTION VOCABULARY

cerebral ganglion one of a pair of nerve-cell clusters that serve as a primitive brain at the anterior end of some invertebrates, such as annelids	**septum** a dividing wall, or partition, such as the wall between adjacent cells in a fungal hypha, the internal wall between adjacent segments of an annelid, and the thick wall between the right and left chambers of the heart **seta** one of the external bristles or spines that project from the body of an annelid

1. **Explain** How would you determine if a worm-like organism was an annelid?

2. **Identify Relationships** What is the relationship between segments and septa?

3. **Identify** How do scientists group annelids into different classes?

4. **Identify** What are two advantages of segmentation?

5. **Describe** Describe the nervous system of an annelid.

6. **Apply Concepts** You recently discovered a new species of annelid. It has visible external segments, but it does not have internally separated segments. With which group of annelids does this new species belong? What other characteristics could you look for to support your identification?