

**Sponges, Cnidarians, and Worms** ▪ *Guided Reading and Study*

**What Is an Animal?** (pp. 294–299)

*This section explains the basic characteristics of animals and how biologists classify animals into groups. It also describes some animal adaptations.*

**Use Target Reading Skills**

*Before you read, preview the red headings. In the graphic organizer below, ask a what or how question for each heading. As you read, write the answers to your questions.*

**Structure of Animals**

Question	Answer
What is a cell?	A cell is ...

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**What Is an Animal?** *(continued)*

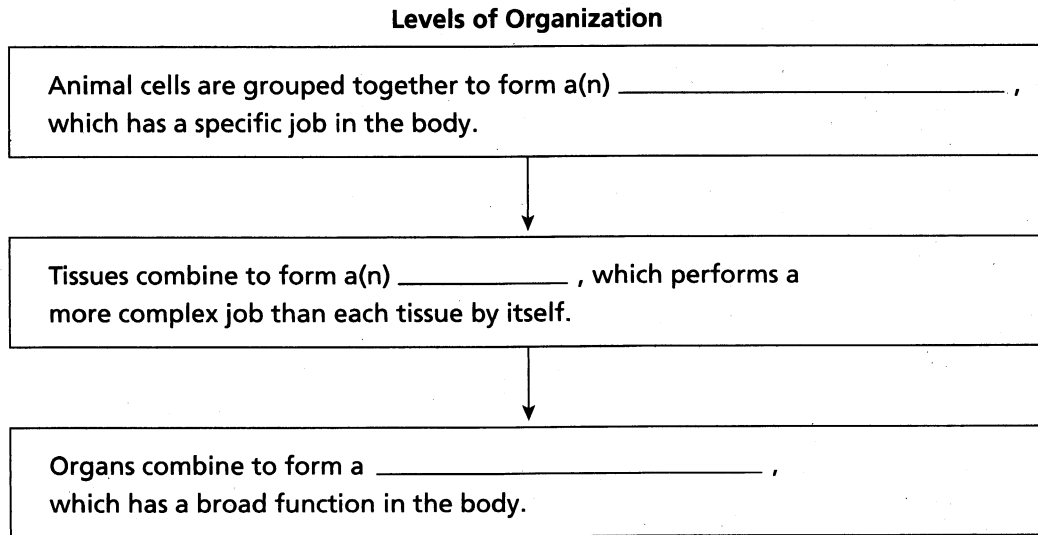
**Structure of Animals** (p. 295)

1. What are cells?

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2. Complete the flowchart to show how cells are organized in animals.



**Functions of Animals** (pp. 296–297)

3. What are four major functions of animals?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

4. What is an adaptation?

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Match the needs with how animals use them.

**Use in Animals**

**Needs**

\_\_\_\_\_ 5. Gives animals raw materials for growth and energy

a. oxygen

b. food

\_\_\_\_\_ 6. Needed by body cells to release the energy from food

7. Is the following sentence true or false? Most animals have a cavity inside their body where food is broken down into substances the body can use.

\_\_\_\_\_

8. Why must animals maintain a stable environment within their bodies?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. What are most animal movements related to?

a. \_\_\_\_\_

b. \_\_\_\_\_

10. Is the following sentence true or false? Some animals don't move from place to place. \_\_\_\_\_

11. What is sexual reproduction?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. The joining of an egg cell and a sperm cell is called \_\_\_\_\_.

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**What Is an Animal?** *(continued)*

13. Is the following sentence true or false? When a sperm cell and an egg cell unite, the resulting new individual does not have any characteristics from either parent. \_\_\_\_\_

14. What is asexual reproduction?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

15. Is the following sentence true or false? Asexual reproduction involves the joining of sex cells from two parents. \_\_\_\_\_

**Classification of Animals** (pp. 298–299)

16. Biologists classify animals in the animal kingdom into about 35 major groups, each of which is called a(n) \_\_\_\_\_.

17. Look at the branching tree of animal phyla in your textbook. Circle the letter of the animal group that is most closely related to birds.

- a. insects
- b. mammals
- c. amphibians
- d. reptiles

18. Is the following sentence true or false? Evidence suggests that all animals arose from single-celled ancestors. \_\_\_\_\_

19. What do biologists consider when they classify an animal?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

20. Is the following sentence true or false? An animal that does not have a backbone is called a vertebrate. \_\_\_\_\_

21. Circle the letter of the animal that is a vertebrate.

- a. bird
- b. jellyfish
- c. spider
- d. crab

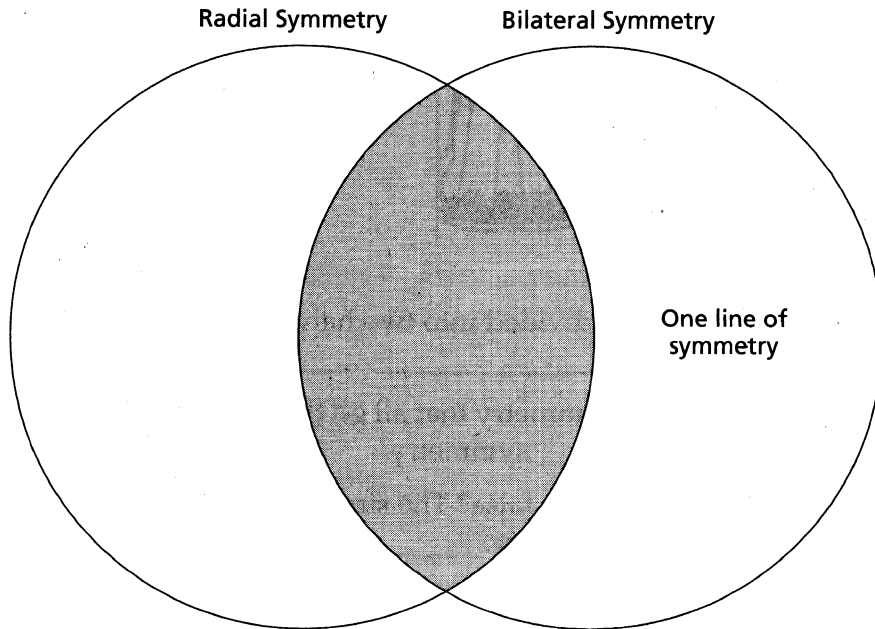
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# Animal Symmetry (pp. 300–302)

*This section explains that animal bodies have a balanced arrangement.*

## Use Target Reading Skills

*As you read, compare and contrast the characteristics of animals with radial and bilateral symmetry in the Venn diagram below. Write the similarities where the circles overlap, and write the differences on the left and right sides.*



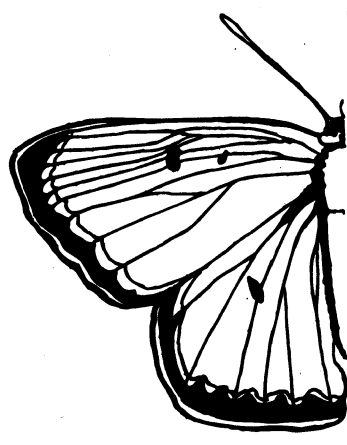
## The Mathematics of Symmetry (pp. 300–301)

1. The balanced arrangement of an animal's body is called \_\_\_\_\_.

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**Animal Symmetry** *(continued)*

2. Complete the drawing of the butterfly's body on the other side of the line of symmetry.



3. Because the butterfly can be divided into two halves that are mirror images of each other, it has \_\_\_\_\_ symmetry.
4. Objects with many lines of symmetry that all go through a central point have \_\_\_\_\_ symmetry.
5. Is the following sentence true or false? The simplest animals, called sponges, usually have no symmetry. \_\_\_\_\_

**Symmetry and Daily Life** (pp. 301–302)

6. Is the following sentence true or false? Animals with radial symmetry have distinct front and back ends. \_\_\_\_\_
7. Circle the letter of each sentence that is true about animals with bilateral symmetry.
- a. Human bodies have bilateral symmetry.
  - b. Animals with radial symmetry are larger and more complex than animals with bilateral symmetry.
  - c. Bilateral symmetry allows for a streamlined, balanced body that moves quickly and efficiently.
  - d. Most animals with bilateral symmetry have sense organs in their back ends.

**Sponges, Cnidarians, and Worms** ▪ *Guided Reading and Study***Sponges and Cnidarians** (pp. 303–311)

*This section describes the characteristics of sponges and cnidarians. It also explores life on a coral reef.*

**Use Target Reading Skills**

*As you read, compare and contrast sponges and cnidarians by completing the table below.*

**Sponges and Cnidarians**

Feature	Sponge	Cnidarian
Body structure	Hollow bag with pores	
Cell type that traps food		
Method(s) of reproduction		

**Sponges** (pp. 303–305)

- Describe the body of a sponge.

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- Circle the letter of each sentence that is true about sponges.
  - Sponges usually have no body symmetry.
  - Sponges always have tissues and organs.
  - A sponge gets oxygen from water.
  - Adult sponges do not to attach themselves to hard surfaces underwater.

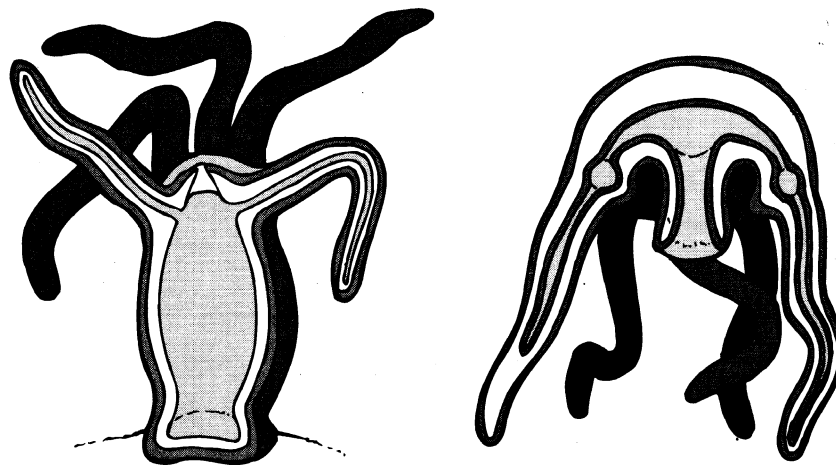
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**Sponges and Cnidarians** (continued)

3. A network of \_\_\_\_\_ supports the bodies of most sponges.
4. Sponges reproduce asexually in a process called \_\_\_\_\_.
5. Is the following sentence true or false? Sponges have separate sexes.  
\_\_\_\_\_

**Cnidarians** (pp. 307–309)

6. What are cnidarians?  
\_\_\_\_\_  
\_\_\_\_\_
7. Circle the letter of each characteristic of a polyp.
  - a. mouth opens at top
  - b. attached to underwater surface
  - c. shaped like upside-down bowl
  - d. radial symmetry
8. In this diagram, identify which body form is a polyp and which is a medusa. Then label the mouth and central cavity for each.



\_\_\_\_\_



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9. How does a cnidarian capture prey?

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10. Is the following sentence true or false? A jellyfish is not able to swim.

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11. Circle the letter of each sentence that is true about cnidarians.

- a. Cnidarians use stinging cells to capture prey.
- b. Cnidarians take food into a central body cavity.
- c. Cnidarians expel undigested food through the mouth.
- d. Cnidarians cannot move.

**Life in a Colony** (pp. 310–311)

12. Coral reefs are built by \_\_\_\_\_.

13. Circle the letter of each sentence that is true about coral reefs.

- a. Coral polyps produce hard, stony skeletons around their soft bodies.
- b. When coral polyps die, their skeletons break down to dust.
- c. Coral reefs are very limited in size.
- d. Coral reefs are home to more species of fishes and invertebrates than any other environment on Earth.

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**Worms** (pp. 314–320)

*This section tells about the characteristics of the three main groups of worms.*

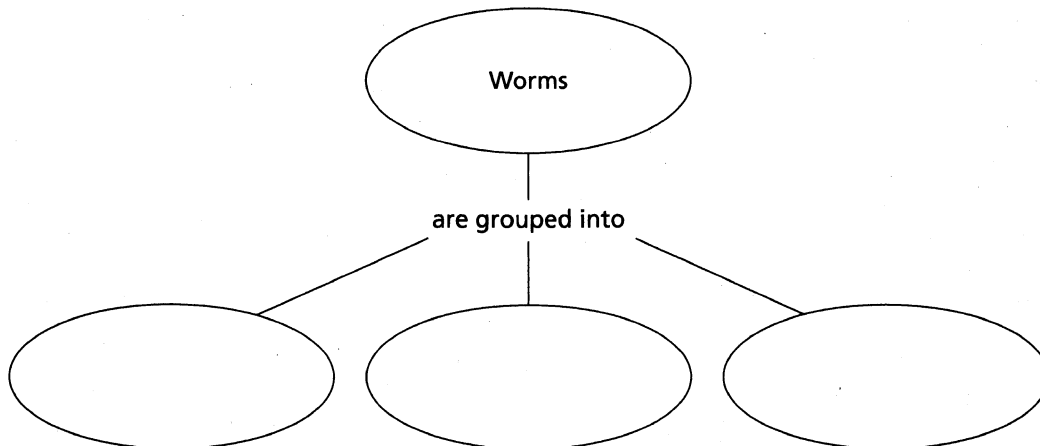
**Use Target Reading Skills**

*Before you read, write what you know about worms in the graphic organizer below. As you read, write what you learn. You can add more than three items to your lists if you think of more.*

What You Know	What You Learned
<p>1. Worms are long and skinny.</p> <p>2.</p> <p>3.</p>	<p>1.</p> <p>2.</p> <p>3.</p>

**Characteristics of Worms** (pp. 314–315)

1. Complete the concept map to show the three major phyla of worms.



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2. List five characteristics shared by all worms.
- a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
3. Circle the letter of each sentence that is true about worms.
- a. Worms do not have brains.
  - b. A worm has sense organs in its head end to respond to food, mates, and predators.
  - c. Worms can only reproduce sexually.
  - d. In some worm species, each individual has both male and female sex organs.

**Flatworms** (pp. 316–317)

4. Circle the letter of each characteristic of most flatworms.
- a. flat bodies
  - b. round bodies
  - c. include tapeworms and planarians
  - d. one-way digestive system
5. An organism that lives inside or on another organism and takes its food from that organism is a(n) \_\_\_\_\_.
6. Is the following sentence true or false? A parasite has no effect on its host. \_\_\_\_\_
7. Where do free-living flatworms live?
- \_\_\_\_\_
- \_\_\_\_\_
8. Circle the letter of each characteristic of planarians.
- a. parasite
  - b. scavenger
  - c. herbivore
  - d. predator

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**Worms** (continued)

9. Describe how a planarian feeds.

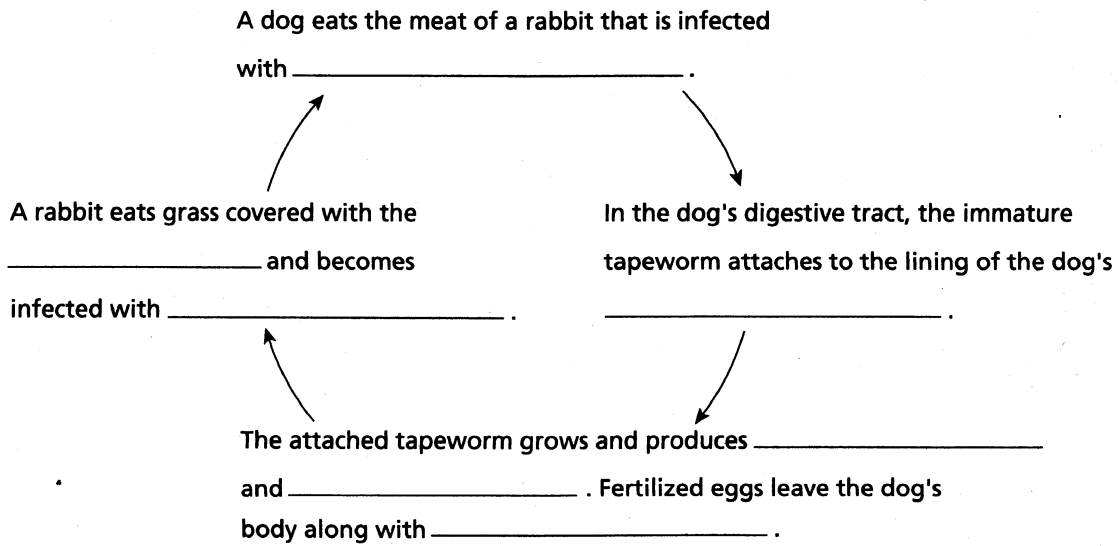
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

10. Is the following sentence true or false? Planarians rely on their eyesight to find food. \_\_\_\_\_

11. Complete the cycle diagram to show the life cycle of a dog tapeworm.



**Roundworms** (p. 318)

12. Circle the letter of each sentence that is true about roundworms.

- a. Roundworms can live in nearly any dry environment.
- b. Roundworms have flat bodies.
- c. Most roundworms are tiny and hard to see.
- d. Roundworms have a digestive system that is like a tube, open at both ends.

13. Wastes exit a roundworm's digestive system through an opening called the \_\_\_\_\_.

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14. What is the advantage of a one-way digestive system?

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**Segmented Worms** (pp. 319–320)

15. Circle the letter of each sentence that is true about segmented worms.

- a. Segmented worms have an open circulatory system.
- b. Earthworms are a type of segmented worm.
- c. Segmented worms have bodies made up of many linked sections.
- d. Reproductive organs are found in every segment of an earthworm.

16. Earthworms have a digestive system with \_\_\_\_\_ opening(s).

17. What is the advantage of a closed circulatory system?

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18. Circle the letter of each characteristic of earthworms.

- a. scavenger
- b. make tunnels
- c. get oxygen through skin
- d. live in water

19. How do earthworms improve the soil?

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