

Structure and Function of Invertebrates ▪ *Reading/Notetaking Guide*

Arthropods (pp. 434–441)

This section describes the characteristics of arthropods and the distinguishing structures of insects, crustaceans, arachnids, centipedes, and millipedes.

Use Target Reading Skills

As you read, take notes on the main ideas in the section and the important details that support each main idea. Think about the Key Concepts and Key Terms. Use the graphic organizer below to take notes.

Arthropods

| Questions | Notes |
|-----------------------|-----------------------|
| What is an arthropod? | An arthropod is . . . |
| | |
| | |
| | |

Characteristics of Arthropods (pp. 435–436)

1. List four major groups of arthropods.

a. _____ b. _____

c. _____ d. _____

2. What are the characteristics of an arthropod?

3. Circle the letter of each example of an appendage found in arthropods.

- a. wings
- b. closed circulatory system
- c. digestive system with one opening
- d. legs

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4. How does an exoskeleton help arthropods live on land?

5. What happens to the exoskeleton when an arthropod grows?

6. Look at the table in your textbook comparing the largest arthropod groups. Crustaceans have _____ pairs of antennae. Arachnids have _____ body sections. Insects have _____ pairs of legs.

7. Is the following sentence true or false? Joints in their appendages give arthropods flexibility and the ability to move.

Match the type of appendage with its function.

| Appendage | Function |
|------------------|--|
| ____ 8. antennae | a. Walking, catching prey, defending against predators |
| ____ 9. legs | b. Have sense organs for smelling, tasting, and touching |

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Arthropods (*continued*)

Diversity of Arthropods (pp. 436–438)

10. What is a crustacean?

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

- a. Crustaceans get oxygen through gills.
- b. Crustaceans live only in dry areas on land.
- c. Most crustaceans begin their lives as tiny swimming larvae.
- d. Each body segment has one pair of legs attached to it.

12. Crustacean larvae develop into adults by _____,
a process in which an animal's body changes dramatically during its lifetime.

13. An arthropod with only two body sections and four pairs of legs is a(n)

_____.

14. Circle the letter of each characteristic of arachnids.

- a. Abdomen containing reproductive organs
- b. Four pairs of legs
- c. Four antennae
- d. Parasitic

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

- a. All spiders are herbivores.
- b. All spiders build webs to catch their prey.
- c. Spiders have hollow fangs that inject venom into prey.
- d. Spiders rarely bite people.

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Match the arthropod with its characteristics. Each kind of arthropod may be used more than once.

| Characteristics | Arthropods |
|---|-------------------|
| ___ 16. Two pairs of legs on each segment | a. centipede |
| ___ 17. One pair of legs on each segment | b. millipede |
| ___ 18. Head with one pair of antennae | |
| ___ 19. Long abdomen with many segments | |

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Arthropods *(continued)*

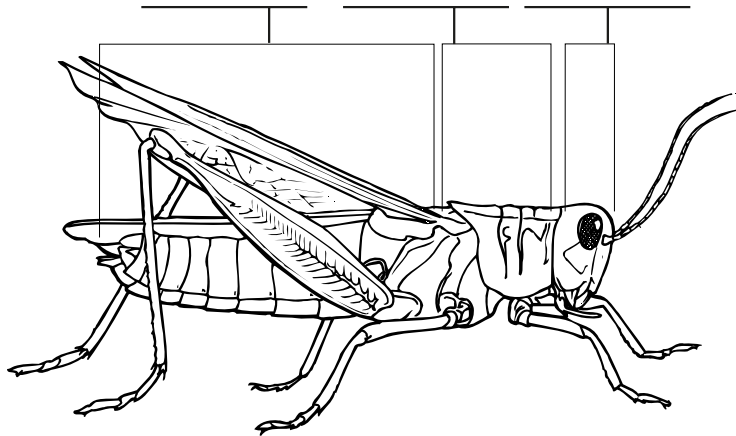
Characteristics of Insects (p. 439)

20. What is an insect?

21. Circle the letter of the body section to which wings and legs are attached.

- a. head
- b. thorax
- c. abdomen
- d. exoskeleton

22. Identify the body sections of the grasshopper below.



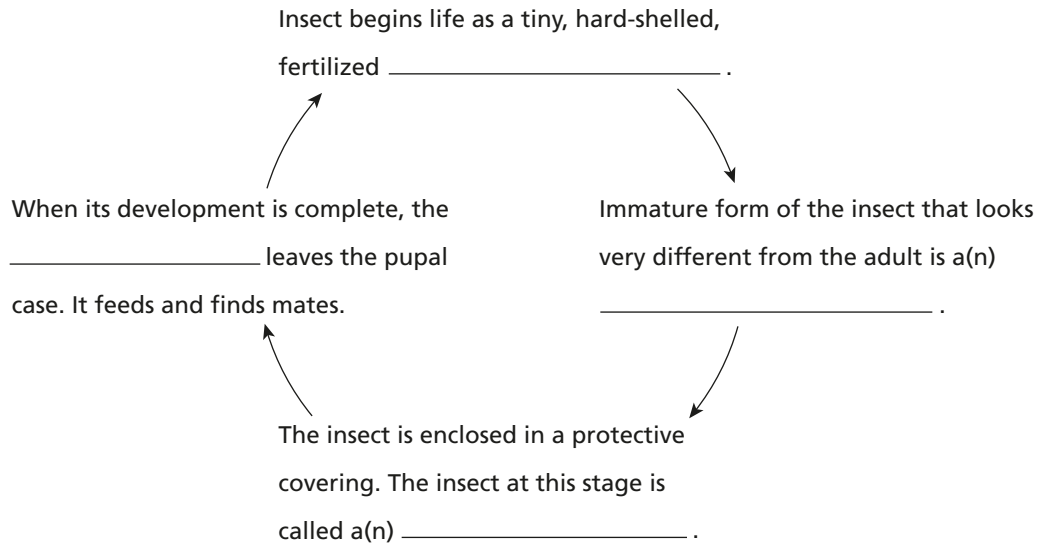
23. Each organ, tissue, and cell in an insect's nervous system contributes to the functions of _____ and _____.

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- 24. Insects have two _____ eyes, which contain many lenses.
- 25. Insects get oxygen into their bodies through a system of _____.

Insect Life Cycles (pp. 440–441)

- 26. Complete the cycle diagram to show the stages of complete metamorphosis.



- 27. In gradual metamorphosis, the egg hatches into a(n) _____, which looks much like a small adult.