

CHAPTER

31

DIRECTED READING

Arthropods

► Section 31-1: Features of Arthropods

Arthropods Were the First Animals with Jointed Appendages

Read each question, and write your answer in the space provided.

1. What do annelids and arthropods have in common?

2. What is the difference between arthropods and annelids?

Arthropods Are the Most Diverse of All the Animal Phyla

*In the space provided, write the name of the subphylum—**Chelicerata, Uniramia, or Crustacea**—to which each type of arthropod belongs.*

- _____ 3. ladybugs
_____ 4. scorpions
_____ 5. spiders
_____ 6. shrimps
_____ 7. horseshoe crabs
_____ 8. centipedes
_____ 9. mites

Arthropods Share a Similar Body Plan

Read each question, and write your answer in the space provided.

10. What eight characteristics are typical of arthropods?

11. How are the thorax and cephalothorax of arthropods related to segmentation?

12. What is a compound eye?

13. How is an arthropod's exoskeleton related to its molting?

14. What structures are used by terrestrial arthropods for respiration?

15. How do terrestrial arthropods excrete metabolic wastes?

► Section 31-2: Spiders and Other Arachnids

Arachnids Have Fangs or Pincers

In the space provided, write the letter of the description that best matches the term or phrase.

- | | | |
|-------|---------------|---|
| _____ | 1. chelicerae | a. secrete strands of silk |
| _____ | 2. pedipalps | b. mouthparts modified into fangs or pincers |
| _____ | 3. spinnerets | c. appendages modified to catch and handle prey |

Mark each statement below T if it is true or F if it is false.

- _____ 4. An arachnid body is made up of a thorax, abdomen, and head.
- _____ 5. The chelicerae of spiders are modified into fangs.
- _____ 6. Spiders are herbivores.
- _____ 7. Arachnids inject their prey with powerful enzymes that cause the prey's tissues to liquefy.
- _____ 8. Spiders use a toxin secreted through their fangs to paralyze their prey.
- _____ 9. Only two species of spiders living in the United States are dangerous to humans.

Scorpions and Mites Are Arachnids

Complete each statement by writing the correct term or phrase in the space provided.

10. A(n) _____ is an arachnid with a long, slender, segmented abdomen that ends in a venomous stinger used to stun prey.
11. A(n) _____ is an arachnid with head, thorax, and abdomen fused into a single unsegmented body.
12. Lyme disease is spread by bites from infected _____
_____.

► Section 31-3: Insects and Their Relatives

Insects Are the Most Numerous Animals

Read each question, and write your answer in the space provided.

1. How are centipedes, millipedes, and insects related to each other?

2. What is the body plan of insects?

3. What is complete metamorphosis?

4. What is the biological benefit of complete metamorphosis?

5. What is incomplete metamorphosis?

6. How does the body plan of centipedes and millipedes differ from that of insects?

Complete each statement by writing the correct term or phrase in the space provided.

7. The order of insects with the largest number of species is _____ .
8. Members of the subphylum Uniramia have chewing mouthparts called _____ .
9. The internal structure of a grasshopper contains _____ , _____ , _____ , and _____ systems.
10. The external structure of the Eastern Lubber Grasshopper includes a pair of forewings, _____ wings, _____ legs, and _____ legs.
11. _____ , _____ , _____ , and _____ are examples of insects that have evolved elaborate social systems.
12. The role played by an individual in a colony is called its _____ .

► Section 31-4: Crustaceans

Crustaceans Are Primarily Aquatic

Complete each statement by underlining the correct term or phrase in the brackets.

1. Almost all crustaceans have a distinctive larval form called a [pupa / nauplius].
2. Crustaceans have [one / two] pair(s) of antennae.
3. Crustaceans have walking legs attached to the [thorax / thorax and abdomen].
4. Crustaceans respire through [gills / a tracheal system].

Crustaceans Are a Major Food Source

Complete each statement by underlining the correct term or phrase in the brackets.

5. A primary food source for many marine species are [krill / crayfish].
6. Large marine crustaceans such as shrimps, lobsters, and crabs have [five / eight] pairs of walking legs.
7. The head and thorax of decapods are fused into a [cephalothorax / carapace].

Some Crustaceans Are Sessile

Mark each statement below T if it is true or F if it is false.

- _____ 8. Barnacles are sessile as adults but have a free-swimming larval form.
- _____ 9. Because barnacles have soft plates, they are not able to protect their body.
- _____ 10. Barnacles are hermaphrodites that do not usually fertilize their own eggs.