

Section 25.2 *Body Plans and Adaptations*

*In your textbook, read about kinds of symmetry in animals.*

Circle the letter of the choice that best completes the statement or answers the question.

- Different kinds of symmetry make it possible for animals to
  - grow very large.
  - survive when cut into pieces.
  - move and find food in different ways.
  - live a long time.
- The irregularly shaped body of a sponge is an example of
  - asymmetry.
  - gastrulation.
  - symmetry.
  - balance.
- A sponge's body has how many layers of cells?
  - one
  - two
  - three
  - four
- The embryonic development of a sponge does *not* include which of the following?
  - formation of endoderm
  - formation of mesoderm
  - a gastrula stage
  - a, b, and c
- If you divided a radially symmetrical animal along any plane through its central axis, you would end up with
  - roughly equal halves.
  - front and back halves.
  - top and bottom halves.
  - three pieces.
- Which of the following animals is *not* radially symmetrical?
  - a hydra
  - a sea urchin
  - a spider
  - a starfish
- An organism with bilateral symmetry can be divided lengthwise into right and left halves that are
  - asymmetrical.
  - mirror images of each other.
  - made up of two cell layers.
  - flattened.

Identify each of the following body parts as being either dorsal or ventral on the animal's body.

- \_\_\_\_\_ 8. the navel of a killer whale
- \_\_\_\_\_ 9. the sail fin on an iguana
- \_\_\_\_\_ 10. the back of your neck
- \_\_\_\_\_ 11. the mouth of a shark
- \_\_\_\_\_ 12. the pouch of a kangaroo

Section 25.2 *Body Plans and Adaptations, continued*

*In your textbook, read about bilateral symmetry and body plans.*

Answer the following questions.

In what ways was the development of a body cavity, or coelom, an advantage for bilaterally symmetrical animals?

\_\_\_\_\_

\_\_\_\_\_

Describe an acoelomate animal's body plan.

\_\_\_\_\_

\_\_\_\_\_

How do nutrients get to the cells in a flatworm's solid, acoelomate body?

\_\_\_\_\_

\_\_\_\_\_

Use each of the terms below just once to complete the passage.

coelom	completely	double	internal organs
mesoderm	partly	pseudocoelom	

A flatworm has a (16) \_\_\_\_\_, a fluid-filled body cavity that is (17) \_\_\_\_\_ with (18) \_\_\_\_\_. Coelomate animals have a (19) \_\_\_\_\_, a body cavity that is (20) \_\_\_\_\_ surrounded by mesoderm and in which complex \_\_\_\_\_ are suspended by (22) \_\_\_\_\_ layers of mesoderm tissue.

*In your textbook, read about animal protection and support.*

For each statement below, write **true** or **false**.

- \_\_\_\_\_ 23. During the course of evolution, animal body plans have decreased in complexity.
- \_\_\_\_\_ 24. An exoskeleton provides protection and support on the outside of an animal's body, as well as a place for muscle attachment.
- \_\_\_\_\_ 25. An endoskeleton is a support framework housed within the body, a protective enclosure for internal organs, and a brace for muscles to pull against.
- \_\_\_\_\_ 26. An invertebrate is an animal with a backbone.