

## CHAPTER

## 28

## VOCABULARY

## Introduction to Animals

Use the terms from the list below to fill in the blanks in the following passage.

acoelomates	ectoderm	hydrostatic skeleton
asymmetrical	endoderm	internal fertilization
bilateral symmetry	endoskeleton	mesoderm
blastula	exoskeleton	open circulatory system
body plan	external fertilization	phylogenetic tree
cephalization	gastrovascular cavity	pseudocoelomates
closed circulatory system	gills	radial symmetry
coelom	hermaphrodites	respiration
coelomates		

In all animals except sponges, the zygote undergoes cell divisions that form a(n) (1) \_\_\_\_\_, which eventually develops into three distinct layers of cells— (2) \_\_\_\_\_, (3) \_\_\_\_\_, and (4) \_\_\_\_\_.

All animals have their own particular (5) \_\_\_\_\_, a term used to describe an animal's shape, symmetry, and internal organization. Sponges are (6) \_\_\_\_\_. The first animals to evolve in the ancient oceans had (7) \_\_\_\_\_, meaning the body parts are arranged around a central axis. The bodies of all other animals have distinct right and left halves. This is called (8) \_\_\_\_\_. Most animals with this type of symmetry also have evolved an anterior concentration of sensory structures and nerves—a process called (9) \_\_\_\_\_.

Bilaterally symmetrical animals have different kinds of internal body plans depending on whether they have a(n) (10) \_\_\_\_\_, a body cavity filled with fluid. Animals with no body cavity are called (11) \_\_\_\_\_. (12) \_\_\_\_\_ have a body cavity located between the mesoderm and the endoderm. (13) \_\_\_\_\_ have a body cavity located entirely within the mesoderm. This means the gut and other internal organs are suspended within a fluid-filled coelom.

To visually represent the relationships among various groups of animals, scientists often use a type of branching diagram called a(n)

(14) \_\_\_\_\_, which shows how animals are related through evolution.

The digestive system enables animals to ingest and digest food. Simple animals have a(n) (15) \_\_\_\_\_, which has only one opening. More complex animals have a digestive tract (gut) with a mouth and an anus.

The uptake of oxygen and the release of carbon dioxide are called (16) \_\_\_\_\_ and can take place only across a wet surface, such as the damp skin of an earthworm. In general, land animals use lungs and aquatic animals use (17) \_\_\_\_\_.

In complex animals, a system is needed to deliver oxygen and nutrients to the cells. In a(n) (18) \_\_\_\_\_

\_\_\_\_\_ the heart pumps a fluid into the body cavity and the fluid collects in open spaces in the animal's body and is returned to the heart. In a(n)

(19) \_\_\_\_\_, the heart pumps blood through a system of blood vessels. The blood remains in the blood vessels and materials pass into and out of the blood vessels through diffusion.

An animal's skeleton provides a framework that supports its body and helps protect its soft parts. Earthworms have a(n) (20) \_\_\_\_\_

\_\_\_\_\_, which consists of water that is contained under pressure in a coelom. Insects, clams, and crabs have a(n)

(21) \_\_\_\_\_, which is a hard, external skeleton that encases the body of the animal. A(n) (22) \_\_\_\_\_ is composed of a hard material, such as bone, and is embedded within an animal.

In sexual reproduction, a new individual is formed by the union of a male and a female gamete. Many simple invertebrates, including slugs and earthworms, produce both types of gametes because they have both testes and ovaries.

Such animals are called (23) \_\_\_\_\_. Most aquatic animals release the male and female gametes near one another in the water, where fertilization occurs. This method is called (24) \_\_\_\_\_

\_\_\_\_\_. In (25) \_\_\_\_\_, the union of the sperm and egg occurs within the female's body.