

# Structure and Function in Living Systems

Name:

## Vertebrates

Period:

Use Chapter 14, Section 4 of your textbook to answer the questions below. The word banks can be used to fill out the sentences below them.

bone cartilage feathers fur hair mucus scales skull vertebrae

### Section 4: Vertebrates

#### Vertebrate Characteristics (p.444)

\_\_\_\_\_ 1. Which of the following features is found only in vertebrates?  
a. skin      b. protein      c. tissue      d. backbone

2. \_\_\_\_\_ is a flexible and strong connective tissue.

#### Body Symmetry

Match the correct description with the correct term. Write the letter in the space provided.

- |                    |              |
|--------------------|--------------|
| _____ 3. the back  | a. dorsal    |
| _____ 4. the belly | b. anterior  |
| _____ 5. the head  | c. posterior |
| _____ 6. the tail  | d. ventral   |



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#### Body Coverings (p.445)

7. \_\_\_\_\_ cover the bodies of fish and reptiles.
8. \_\_\_\_\_ is a slippery fluid that covers amphibians and fish.
9. \_\_\_\_\_ are the body covering that keeps body temperature stable in birds.
10. \_\_\_\_\_ and \_\_\_\_\_ are body coverings that keep body temperature stable in mammals.

#### Support of the Body

11. The \_\_\_\_\_ surrounds and protects the brain.
12. The \_\_\_\_\_ surrounds and protects the spinal cord.
13. A \_\_\_\_\_ provides a place for muscle tissue to attach.

#### Respiratory Systems (p.446)

- \_\_\_\_\_ 14. What is the main respiratory organ in fish, shown in Figure 4?  
a. lungs      b. water      c. gills      d. mouth
- \_\_\_\_\_ 15. Why are the main respiratory organs of land vertebrates inside the body?  
a. to keep them clean      c. to protect them from infection  
b. to keep them from drying out      d. to provide body support
- \_\_\_\_\_ 16. What is the main respiratory organ of a frog, shown in Figure 5?  
a. heart      b. arteries      c. veins      d. lungs

**turn over for more questions**

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brain    digestive tract    gills    heart    instinct    kidneys    large intestine    lungs  
sexual    similar    small intestine

### Circulatory Systems (p.446)

17. The \_\_\_\_\_ pushes blood through the closed circulatory system of a vertebrate.

\_\_\_\_\_ 18. Which of the following are the blood vessels that carry blood to and from the heart?  
a. arteries; veins    b. veins; capillaries    c. capillaries; veins    d. veins; arteries

19. From the heart, blood is pumped into the \_\_\_\_\_ or \_\_\_\_\_ .

### Digestive and Excretory Systems (p.447)

20. The \_\_\_\_\_ is the long tube of the digestive system.

21. Nutrients get absorbed in the \_\_\_\_\_ .

22. The organ that turns waste into feces is the \_\_\_\_\_ .

23. \_\_\_\_\_ filter urea from the blood.

### Nervous Systems

24. The \_\_\_\_\_ is the main control center of a vertebrate's body.

\_\_\_\_\_ 25. What happens when sound reaches the ear?  
a. The ear interprets the sound waves.  
b. The ear sends impulses through sensory nerves to the brain.  
c. The ear sends sound waves through the circulatory system.  
d. The ear blocks the sound waves to protect the brain.

26. The larger the brain, the less the animal depends upon \_\_\_\_\_ .

### Reproduction and Development (p.448)

27. Most vertebrates reproduce by \_\_\_\_\_ reproduction.

\_\_\_\_\_ 28. Read about Figure 7. What process takes place in an embryo's cells as it develops?  
a. fusion    b. fertilization    c. differentiation    d. metamorphosis

\_\_\_\_\_ 29. Which of the following is NOT true of fish and amphibian larvae?  
a. They hatch in water.    c. They can't reproduce.  
b. They can reproduce.    d. They live on their own.

30. In early stages of development, the embryos of vertebrates look \_\_\_\_\_ .

### Parental Care (p.449)

\_\_\_\_\_ 31. How do parenting skills of birds and mammals differ from those of fish and reptiles?  
a. Birds and mammals have more offspring, so they parent longer.  
b. Birds and mammals have fewer offspring, so they parent longer.  
c. Only fish and reptiles parent until their offspring are adults.  
d. Only birds and mammals abandon their offspring at birth.