

## CHAPTER

34

## TEST PREP PRETEST

## Fishes and Amphibians

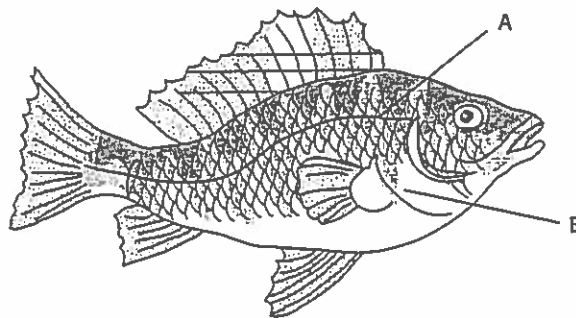
*In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.*

- \_\_\_\_\_ 1. The major respiratory organ of a fish is the  
a. swim bladder. c. gill.  
b. lung. d. operculum.
- \_\_\_\_\_ 3. Lampreys and hagfishes are the only remaining  
a. bony fishes. c. Osteichthyes.  
b. Chondrichthyes. d. agnathans.
- \_\_\_\_\_ 4. Because the bodies of freshwater fish contain more ions than the surrounding water, they  
a. excrete concentrated urine.  
b. need to take in salts from the environment.  
c. tend to take in water through osmosis.  
d. Both (b) and (c)
- \_\_\_\_\_ 5. Members of the order Apoda do NOT  
a. use cutaneous respiration. c. have legs.  
b. lay eggs. d. bear live young.
- \_\_\_\_\_ 6. Which of the following characteristics is NOT shared by all fishes?  
a. gills c. single-loop circulation  
b. vertebral column d. scales
- \_\_\_\_\_ 7. In order to rise in the water, bony fishes fill their swim bladder with gas from  
a. their gills. c. the surrounding water.  
b. their bloodstream. d. their lungs.
- \_\_\_\_\_ 8. Fish "swallow" water to  
a. force it from the mouth and over the gills.  
b. steady themselves in the water.  
c. feed.  
d. All of the above
- \_\_\_\_\_ 10. Jawless fishes have  
a. unpaired fins. c. operculums.  
b. scales. d. swim bladders.

11. A modern amphibian's heart has a  
 a. divided atrium and one ventricle.  
 b. divided ventricle and one atrium.  
 c. septum.  
 d. Both (a) and (c)
12. Frogs and toads are members of the order  
 a. Anura.  
 b. Apoda.  
 c. Urodela.  
 d. Caecilia.
13. Because of their tympanic membrane, leopard frogs can hear well in  
 a. both water and air.  
 b. water but not in air.  
 c. air but not in water.  
 d. None of the above

Questions 14 and 15 refer to the figure at right, which shows the structure of a fish.

14. The structure labeled A is called the  
 a. dorsal fin.  
 b. brain.  
 c. operculum.  
 d. lateral line.



15. The structure labeled B is called the  
 a. pectoral fin.  
 b. operculum.  
 c. pelvic fin.  
 d. jaw.

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 Circle T if the statement is true or F if it is false.

- T F 17. In fish, blood collects in the sinus venosus and passes into the atrium.
- T F 18. Marine fish excrete concentrated urine to prevent excessive water loss.
- T F 19. The only remaining agnathans are bony fishes.
- T F 20. Skates and rays have streamlined bodies.
- T F 21. All members of the order Urodela retain gills as adults.
- T F 22. Fishes have a double-loop circulation system.
- T F 23. Most bony fishes have a hard plate, called the operculum, that covers the gills on each side of the head.

- T F 25. Spawning is a method of external fertilization.
- T F 26. The gills of bony fishes are more efficient than amphibians' lungs.
- T F 27. All modern amphibians use only their lungs for respiration.
- T F 28. All frogs, toads, salamanders, and caecilians have legs that enable them to move efficiently in terrestrial habitats.
- T F 29. The leopard frog protects itself from predators by means of skin glands that secrete poisonous substances.

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

31. By moving certain \_\_\_\_\_ and the \_\_\_\_\_ ,  
bony fishes can move water over their gills while remaining stationary.
32. In amphibians, oxygen-rich blood and oxygen-poor blood mix in the  
\_\_\_\_\_ because it lacks a(n) \_\_\_\_\_ .
33. The only jawless fishes that survive today are the \_\_\_\_\_ and  
the \_\_\_\_\_ .

35. \_\_\_\_\_ carry oxygen-rich blood from  
an amphibian's \_\_\_\_\_ to its heart.
36. About 95 percent of all living fish species are \_\_\_\_\_ .
37. \_\_\_\_\_ grow throughout a fish's life and can be used to  
estimate the \_\_\_\_\_ of the fish.
38. All fishes have a(n) \_\_\_\_\_ that  
surrounds the spinal cord.
39. In amphibians, one circulatory loop travels to the \_\_\_\_\_ , and  
another circulatory loop travels to the \_\_\_\_\_ .

42. Individual \_\_\_\_\_ in the kidneys regulate salt and water  
balance in an animal's body.
43. Besides breathing with their lungs, frogs, salamanders, and caecilians also  
engage in \_\_\_\_\_ respiration.
44. Salamanders are members of the order \_\_\_\_\_ .
45. Urine, undigested food, egg cells, and sperm cells all exit the body of the  
leopard frog through the \_\_\_\_\_ opening.

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

46. What is countercurrent flow, and why is it important to a fish?

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47. Describe the role of the tympanic membrane in a frog's sense of balance.

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48. How do lampreys and hagfishes feed?

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49. What information does a bony fish get from its lateral line system?

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50. Which group of amphibians does not have the important adaptation of terrestrial vertebrates—legs? Explain.

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51. What enables a leopard frog to keep its skin moist? Why is this important?

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## Reptiles and Birds

*In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.*

- \_\_\_\_\_ 1. Tuataras are members of the reptile order
  - a. Chelonia.
  - b. Squamata.
  - c. Rhynchocephalia.
  - d. Crocodilia.
- \_\_\_\_\_ 2. In the raising of their young, crocodiles most closely resemble which of the following vertebrates?
  - a. turtles
  - b. lizards
  - c. snakes
  - d. birds
- \_\_\_\_\_ 3. All reptiles EXCEPT crocodilians have
  - a. a partially divided ventricle.
  - b. alveoli.
  - c. overlapping scales.
  - d. relatively small brains.
- \_\_\_\_\_ 4. Which of the following is NOT true of a turtle's shell?
  - a. Vertebrae are fused to the inside of the carapace.
  - b. The carapace provides support for muscle attachment.
  - c. The carapace is always dome shaped.
  - d. The shell is made of fused plates of bone.
- \_\_\_\_\_ 5. During the Cretaceous period, snakes probably evolved from
  - a. turtles.
  - b. lizards.
  - c. dinosaurs.
  - d. alligators.
- \_\_\_\_\_ 6. The heat-sensing organ used by timber rattlesnakes to locate a motionless animal in total darkness is called a
  - a. venom gland.
  - b. fang.
  - c. pit organ.
  - d. rattle.
- \_\_\_\_\_ 7. Which of the following characteristics distinguishes crocodilians from other reptiles?
  - a. Crocodilians are ectothermic.
  - b. Crocodilians care for their young after hatching.
  - c. Crocodilians have dry, watertight skin.
  - d. Crocodilians have amniotic eggs.
- \_\_\_\_\_ 8. Respiratory efficiency in birds is improved by the presence of
  - a. air sacs.
  - b. one-way air flow through the lungs.
  - c. a completely divided ventricle.
  - d. All of the above
- \_\_\_\_\_ 9. A bird foot with two forward-facing toes and two backward-facing toes is well adapted for
  - a. seizing prey.
  - b. perching, climbing, and holding food.
  - c. swimming.
  - d. wading in water.

- \_\_\_\_\_ 10. The problem of reptile sperm and eggs drying out on land is solved by  
 a. internal fertilization. c. overlapping scales.  
 b. an amniotic egg. d. Both (a) and (b)
- \_\_\_\_\_ 11. Compared with amphibians, the legs of reptiles are positioned  
 a. closer to the head.  
 b. farther from the head.  
 c. farther apart.  
 d. more vertically under the body.
- \_\_\_\_\_ 12. Unlike most reptiles, members of the order Rhynchocephalia are  
 a. scaleless.  
 b. aquatic.  
 c. most active at low temperatures.  
 d. endothermic.
- \_\_\_\_\_ 13. The feathers of birds are important for  
 a. providing lift for flight.  
 b. conserving heat.  
 c. insulation.  
 d. All of the above
- \_\_\_\_\_ 14. Which of the following is NOT an adaptation for flight?  
 a. oil gland c. thin and hollow bones  
 b. keel for muscle attachment d. fused collarbones
- \_\_\_\_\_ 15. The second chamber of the stomach of a bald eagle is known as the  
 a. crop. c. esophagus.  
 b. gizzard. d. cloaca.

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

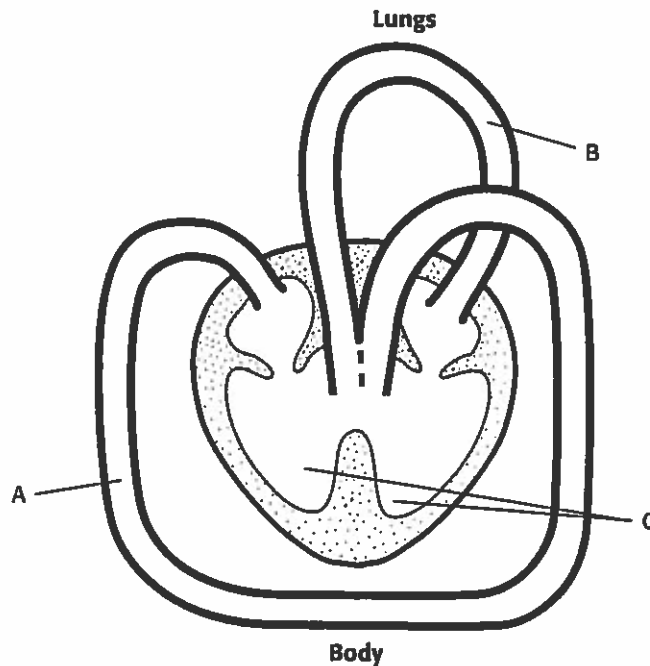
- |                             |  |
|-----------------------------|--|
| _____ 16. ovoviviparous     | a. order that includes turtles and tortoises                                 |
| _____ 17. contour feathers  | b. hollow teeth used to inject venom   |
| _____ 18. amniotic egg      | c. detect odor of chemicals to help snakes follow prey                       |
| _____ 19. Chelonia          | d. fertilized eggs develop within a female's body until the eggs hatch       |
| _____ 20. alveoli           | e. direct venom into the victim through bite wounds                          |
| _____ 21. plastron          | f. give an adult bird its shape  |
| _____ 22. Jacobson's organs | g. the bottom part of a turtle or tortoise shell                             |
| _____ 23. snake             | h. has a jaw that is only loosely connected to its skull                     |
| _____ 24. grooved teeth     | i. the top part of a turtle or tortoise shell                                |
| _____ 25. carapace          | j. grape-shaped chambers that increase the surface area of a reptile's lungs |
| _____ 26. fangs             | k. contains both water and food for a developing embryo                      |

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

27. Crocodiles are the only living reptiles that have a completely divided \_\_\_\_\_ .
28. Because the \_\_\_\_\_ in a bird's heart is completely divided, oxygen-rich and oxygen-poor blood are kept completely \_\_\_\_\_ .
29. A timber rattlesnake's venom contains \_\_\_\_\_ that destroy red blood cells and cause internal hemorrhaging.
30. The success of lizards and snakes as predators is partially because of how the \_\_\_\_\_ is connected to the skull.
31. Like reptiles, birds lay \_\_\_\_\_ and have \_\_\_\_\_ on their legs and feet.

Questions 32 and 33 refer to the figure below, which shows the reptilian circulatory system.



32. Oxygen-poor blood from point A enters the \_\_\_\_\_ , while oxygen-rich blood from point B enters the \_\_\_\_\_ .
33. Arteries carry oxygen-rich blood from the \_\_\_\_\_ , labeled C, to the body and oxygen-poor blood to the \_\_\_\_\_ .

34. Unlike reptiles, birds have \_\_\_\_\_ and \_\_\_\_\_  
modified into wings.
35. A long, flattened, rounded bill, as found in \_\_\_\_\_, is adapted  
for \_\_\_\_\_.
36. Feathers are modified reptilian \_\_\_\_\_.
37. Most reptiles cannot live in very cold regions because they are  
\_\_\_\_\_.
38. Reptiles, birds, and three species of mammals reproduce by means of a(n)  
\_\_\_\_\_ with a(n) \_\_\_\_\_.
- This is evidence that they share a(n) \_\_\_\_\_.

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

39. List the four orders of present-day reptiles, and give an example of each.

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40. Describe the structure and function of a turtle's shell.

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41. Which is more efficient—a bird lung or a reptile lung? Explain.

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