SAMPLE QUESTIONS

1. Which one of the following is NOT a characteristic of all chordates?
   A. Complete digestive system
   B. Backbone
   C. Notochord
   D. Dorsal nerve cord
   E. Bilateral symmetry

2. Which of these is an example of a jawless fish?
   A. Ray
   B. Shark
   C. Hagfish
   D. Whale shark
   E. Skate

3. The caudal fin of sharks is located __________.
   A. at the tail end
   B. on the dorsal surface close to the tail
   C. on the ventral surface close to the tail
   D. one the ventral surface close to the mouth
   E. one the dorsal surface close to the mouth

4. Demersal fishes __________.
   A. live on the surface of the water
   B. feed on plankton
   C. are parasites
   D. are components of the plankton
   E. live on the bottom

5. Which of the following structures do bony fishes have that sharks and rays do not?
   A. Dorsal fin
   B. Pectoral fin
   C. Gill slits
   D. An operculum
   E. Notochord

6. When a particular color pattern allows animals like fishes to blend with their surroundings it is referred to as __________.
   A. cryptic coloration
   B. warning coloration
   C. defensive color
   D. countershading
   E. structural color

7. In many sharks, extra buoyancy is provided by the __________.
   A. dorsal fin
   B. swim bladder
8. Many fishes and marine mammals have a protein called myoglobin that helps them store extra oxygen in their __________.
   A. blood
   B. livers
   C. muscles
   D. digestive systems
   E. respiratory systems

9. Fishes with a small mouth located at the end of a long, thin "bill" are more likely to feed upon __________.
   A. large seaweeds such as kelp
   B. larger fishes
   C. plankton that is filtered from the water
   D. very small animals
   E. other fishes of the same species

10. In fishes, as in all vertebrates, the function of the liver is to __________.
    A. absorb nutrients
    B. produce saliva
    C. aid in the digestion of plant material
    D. secrete hormones
    E. produce bile, which is used in the digestion of fats

11. Spiracles are involved in __________.
    A. filter feeding
    B. removing additional oxygen from the water
    C. increasing the surface area of the shark's intestine
    D. carrying additional blood to the heart
    E. allowing fishes like rays to take in water even when the mouth is buried in sediment

12. Oxygen is carried in the blood of fishes by what protein?
    A. Hemoglobin
    B. Urea
    C. Salts
    D. Myoglobin
    E. Chloride ions

13. The purpose of the lateral line in fishes is to __________.
    A. produce sound waves
    B. see particular colors
    C. Detect vibrations
    D. carry blood along skin
    E. aid in ingestion of food in rays

14. Anadromous fishes migrate __________.
    A. up and down the water column
    B. from fresh water to reproduce at sea
15. Which one of the following terms is a synonym for spawning by releasing gametes into the environment?
A. Copulation.
B. Internal fertilization.
C. External fertilization
D. Mating
E. Courtship

16. Ovoviviparous fishes __________.
A. release eggs, which are then fertilized in the water
B. have embryos that take nutrients from the mother's reproductive tract
C. release already fertilized but undeveloped eggs
D. release sperm in packets
E. retain fertilized eggs for development

17. Open-water fish have light-colored bellies and dark-colored backs in order to blend into the pelagic environment. This is known as __________.
A. disruptive coloration.
B. countershading
C. structural coloration
D. iridescence
E. aposomatic coloration

18. Broadcast spawning in fishes refers to __________.
A. internal fertilization
B. external fertilization
C. courtship behavior
D. the use of claspers
E. vivipary