

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**EVOLUTION CONCEPTS REVIEW - Read chapter 10 of your text to answer the questions. The submit your answers ONLINE via the class website.**

1. Which scientist developed a classification system for organisms?  
(A) Jean-Baptiste Lamarck (C) Charles Darwin  
(B) Georges L.L. de Buffon (D) Carolus Linnaeus
2. Which theory ties the fields of biology and geology together?  
(A) gradualism (C) catastrophism  
(B) uniformitarianism (D) evolution
3. What is the process in which humans breed organisms for certain traits?  
(A) artificial selection (C) descent without modification  
(B) inheritance of acquired characteristics (D) natural selection
4. The hind leg bones shown in the whale in Figure 10.2 are examples of

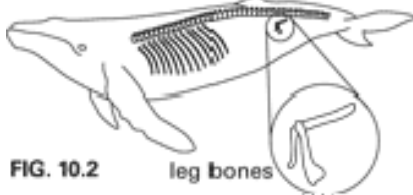
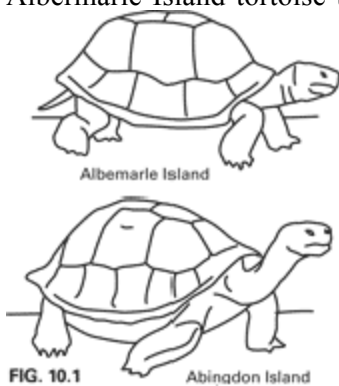


FIG. 10.2

leg bones

- (A) vestigial structures. (C) fossil structures.  
(B) homologous structures. (D) analogous structures.
5. The remnant of an organ that had a function in an early ancestor is known as a(n)  
(A) analogous structure. (C) fossil structure.  
(B) homologous structure. (D) vestigial structure.
6. Fossil evidence shows that structures considered vestigial in living organisms  
(A) are not found in ancient organisms. (C) were useful to their ancestors.  
(B) have always been vestigial. (D) do not fill gaps in the fossil record.
7. What is the term for a feature that allows an organism to survive better in its environment?  
(A) vestigial structure (C) variation  
(B) homologous structure (D) adaptation
8. Natural selection results in change over time by acting on traits that are  
(A) better. (C) mutated.  
(B) new. (D) heritable.
9. What is the study of the distribution of organisms around the world?  
(A) biogeography (C) paleontology  
(B) geography (D) geology

10. Charles Darwin found fossils that looked like ancient versions of living species. From this evidence Darwin suggested that Earth was
- (A) about 1000 years old. (C) less than 6000 years old.  
(B) much more than 6000 years old. (D) only 6000 years old.
11. Individuals that are well adapted to their environment will survive and produce
- (A) better traits. (C) fewer mutations.  
(B) stronger genes. (D) more offspring.
12. Which theory states that floods and earthquakes have occurred often in Earth's history?
- (A) uniformitarianism (C) artificial selection  
(B) natural selection (D) catastrophism
13. The tortoise from Abingdon Island, shown in Figure 10.1, would likely be better adapted than the Albermarle Island tortoise to which of the following environments?



- (A) areas with no plants and sand dunes (C) areas with only tall trees  
(B) areas with lots of taller plants (D) areas with short plants and mosses
14. What observations did Charles Darwin make about finches in the Galápagos Islands?
- (A) Different species of finches lived on different islands.  
(B) The same species of finches lived on all the islands.  
(C) Identical species of finches lived in South America.  
(D) Various species of finches lived on just one of the islands.
15. All the individuals of a species that live in a particular area are called a
- (A) population. (C) variation.  
(B) fossil. (D) group.

Use the exhibit to answer the following questions.

**FIG. 10.4 EVOLUTIONARY RELATIONSHIP OF VERTEBRATES**

Species	Number of amino acids that differ from those in a human hemoglobin protein chain (total chain length = 146 amino acids)
Human	0
Rhesus monkey	8
Mouse	27
Chicken	45
Frog	67
Lamprey	125

16. Which species has the most amino acids in common with humans?
17. What does this molecular fingerprinting reveal about the frog?
18. Which species from Figure 10.4 has the most amino acids that are different from those of humans?
19. Which organisms in Figure 10.4 share the most distant common ancestors? Explain.
20. How does the data in Figure 10.4 indicate that humans and Rhesus monkeys share the most recent common ancestor?

Short Answer : Write your answers on the space provided.

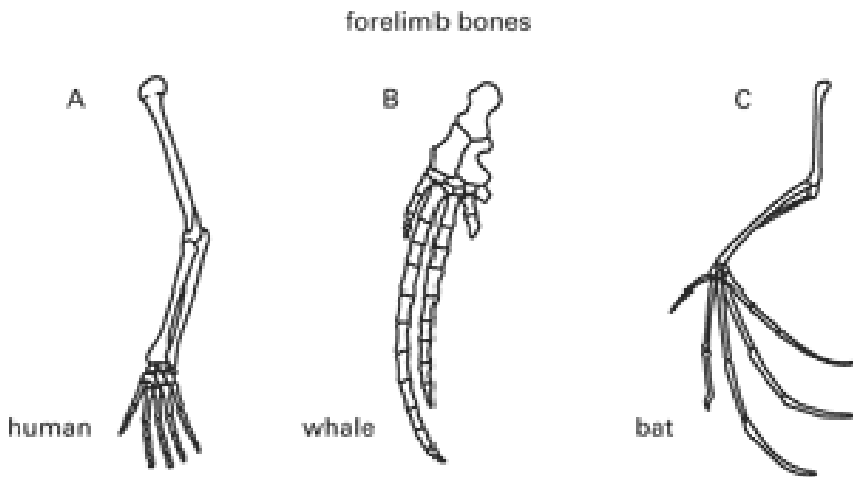


FIG. 10.3

21. What do these structures indicate about the evolution of the three organisms?
22. What would be an example of a structure analogous to structure C?
23. How does the anatomy of the forelimbs show an evolutionary pattern?
24. What are the functions of the three forelimbs in Figure 10.3?
25. The forelimbs of the organisms in Figure 10.3 are examples of what type of structures?