

Chapter 15 Darwin's Theory of Evolution**Chapter Test B****Multiple Choice**

Write the letter on the line provided that best answers the question or completes the statement.

- _____ 1. During the voyage on the *Beagle*, Charles Darwin made many observations
- a. in England.
 - b. in North America.
 - c. on the Galápagos Islands.
 - d. in Asia.
- _____ 2. James Hutton's and Charles Lyell's work suggested that
- a. Earth is many millions of years old.
 - b. Earth is several thousand years old.
 - c. all fossils were formed in the last one thousand years.
 - d. all rocks on Earth contain fossils.
- _____ 3. In the 1800s, Charles Lyell emphasized that
- a. the human population would outgrow the available food supply.
 - b. all populations evolve through natural selection.
 - c. Earth is a few thousand years old.
 - d. past geological events must be explained in terms of processes observable today.
- _____ 4. What did Darwin learn from reading the work of Hutton and Lyell?
- a. Earth is relatively young.
 - b. Earth is very old.
 - c. All geological change is caused by living organisms.
 - d. The processes that formed old rocks on Earth do not operate today.
- _____ 5. In 1859, Darwin published his revolutionary scientific ideas in a work entitled
- a. *Principles of Geology*.
 - b. *Essay on the Principle of Population*.
 - c. *Evolution in Malaysia*.
 - d. *On the Origin of Species*.

- ____ 6. Darwin was prompted to publish his theory of evolution by
- an essay by Wallace on evolution.
 - the publication of Lamarck's theory of evolution.
 - the captain of the *Beagle*.
 - the work of Hutton and Lyell.
- ____ 7. When a farmer breeds only his or her best livestock, the process involved is
- natural selection.
 - artificial selection.
 - artificial variation.
 - survival of the fittest.
- ____ 8. An adaptation is an inherited characteristic that can be
- physical or behavioral.
 - physical or geographical.
 - acquired during the organism's lifetime.
 - the result of artificial selection.
- ____ 9. Darwin called the ability of an organism to survive and reproduce in its environment
- diversity.
 - fitness.
 - adaptation.
 - evolution.
- ____ 10. In humans, the pelvis and the femur, or thighbone, are involved in walking. In whales, the pelvis and femur shown in Figure 15-1 are
- examples of fossils.
 - vestigial structures.
 - acquired traits.
 - examples of natural variation.
- ____ 11. People of Darwin's time understood that fossils
- were preserved remains of ancient organisms.
 - were available for every organism that ever lived.
 - were unrelated to living species.
 - were evidence for the evolution of life on Earth.
- ____ 12. The economist Thomas Malthus suggested that
- people die faster than babies are born.
 - there would soon be insufficient food for the growing human population.
 - in the 1700s, England needed more housing.
 - the majority of a species' offspring die.
- ____ 13. Darwin's theory of evolution suggests that
- species change over time.
 - extinct species are not related to living species.
 - different species can interbreed.
 - animals that look alike are the most closely related.

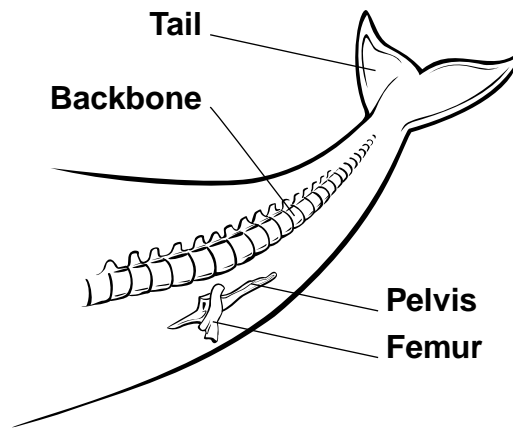


Figure 15-1

- ____ 14. Which statement is in agreement with Darwin's theory of evolution?
- More offspring are produced than can possibly survive.
 - The organisms that are the fittest are always the largest and strongest.
 - The number of offspring is not related to fitness.
 - Acquired characteristics that are inherited are the cause of evolution.
- ____ 15. The hypothesis that species change over time by natural selection was proposed by
- Hutton.
 - Lamarck.
 - Malthus.
 - Darwin.

Completion

Complete each statement on the line provided.

16. Hutton thought that rocks from the sea floor could be pushed up very high to form _____.
17. According to Lamarck, evolution resulted from the inheritance of _____ traits.
18. When babies are born faster than people are dying, the size of the population _____.
19. Darwin observed that instead of being perfect and unchanging, individuals in a species show _____.
20. According to Darwin's theory of evolution, _____ change over time.

Short Answer

In complete sentences, write the answers to the questions on the lines provided.

21. What evidence did Darwin collect in addition to specimens of organisms alive during his time?
- _____
- _____
22. What was Lamarck's overall belief about the way in which organisms changed over time?
- _____
- _____
23. What did Darwin discover to be true about the Galápagos birds that he thought were different kinds of wrens, warblers, and blackbirds?
- _____
- _____

24. How did the farmers observed by Darwin improve their livestock?

25. Why were fossils important to Darwin's theory of evolution?

Using Science Skills

Use the diagram below to answer the following questions on the lines provided.

26. **Interpreting Graphics** According to Figure 15-2, how did the body size of the horse change during its evolution?

27. **Observing** In Figure 15-2, how did the size of the head change as the horse evolved?

28. **Inferring** Scientists have never seen the ancient horses shown in Figure 15-2. What do you think was the main type of evidence that scientists used to prepare these diagrams?

29. **Comparing and Contrasting** According to Figure 15-2, how does the number of toes of *Mesohippus* compare with those of *Equus*, the modern horse?

30. **Inferring** Does Figure 15-2 show that all species get much larger as they evolve?

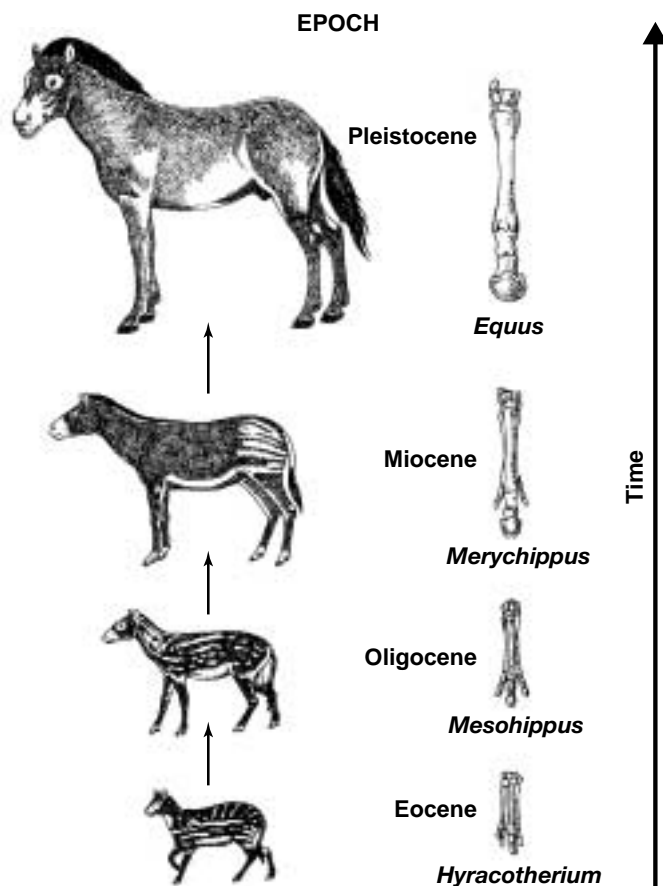


Figure 15-2