

Assessment

Chapter Test B

Evolutionary Theory

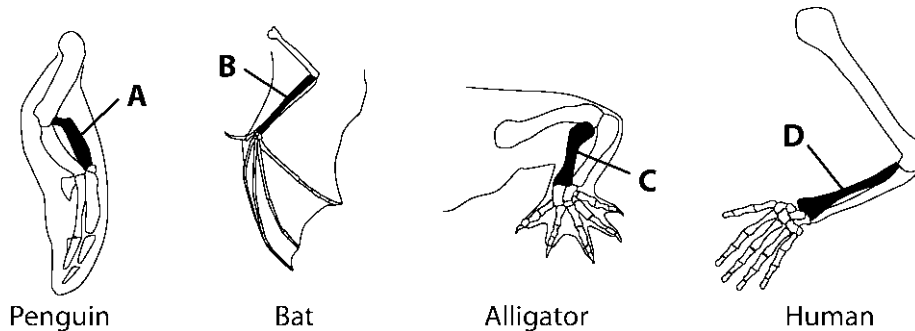
In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- _____ 1. The evolution of beak shapes in Galápagos finches is a response to
- the bodies of water present.
 - the types of food available.
 - whether the populations interbreed.
 - the nutritional content of seeds.
- _____ 2. According to Darwin, evolution occurs
- in response to use or disuse of a characteristic.
 - by punctuated equilibrium.
 - by natural selection.
 - within an individual's lifetime.
- _____ 3. The hypothesis that evolution occurs suddenly, separated by periods of no change,
- was supported by Darwin.
 - is known as punctuated equilibrium.
 - is supported by many transitional forms in the fossil record.
 - was proposed by Lyell.
- _____ 4. The traits of individuals best adapted to survive become more common in each new generation because
- offspring without those traits do not survive.
 - organisms with those traits are more likely to survive and reproduce.
 - those individuals do not breed.
 - natural selection does not affect well-adapted individuals.
- _____ 5. Which is a process of microevolution?
- genetic drift
 - coevolution
 - macroevolution
 - All of the above
- _____ 6. In the study of the fossil record, scientists have learned that
- organisms do not evolve.
 - related organisms share similar DNA sequences.
 - modern whales descended from a four-legged mammal.
 - vertebrate embryos have some features in common.

Chapter Test B *continued*

- _____ 7. That organisms produce more offspring than their environment can support is
- an element of natural selection.
 - not an element of evolution.
 - the only mechanism of evolution.
 - the beginning of speciation.
- _____ 8. Natural selection is the process by which
- the age of Earth is calculated.
 - organisms with traits well suited to the environment survive and reproduce at a greater rate than other organisms.
 - acquired traits are passed from one generation to the next.
 - All of the above
- _____ 9. The theory of evolution predicts that
- closely related species will show similarities in DNA sequences.
 - if species have changed over time, their genes have changed.
 - closely related species will show similarities in amino acid sequences.
 - All of the above

Questions 10–12 refer to the figures below.



- _____ 10. The bones labeled A–D are known as
- vestigial structures.
 - divergent structures.
 - homologous structures.
 - embryonic structures.
- _____ 11. The similarity of these structures suggests that the organisms
- have a common ancestor.
 - all grow at different rates.
 - evolved slowly.
 - live for a long time.

Chapter Test B *continued*

- _____ 12. An analysis of the DNA from these organisms would indicate that
- their DNA is identical.
 - they all have tails.
 - their DNA sequences show many similarities.
 - they all have the same number of chromosomes.
- _____ 13. Strong evidence for evolution comes from
- forensic biology.
 - books.
 - works of philosophy.
 - the fossil record.
- _____ 14. Lamarck supported
- unchanging species.
 - use and disuse of traits.
 - convergent structures.
 - embryological homologies.
- _____ 15. Darwin theorized that natural selection is
- the mechanism of evolution.
 - how modern species have come to exist.
 - the explanation for beak variation in finches.
 - All of the above

In the space provided, write the letter of the description that best matches each term.

- | | |
|----------------------------------|--|
| _____ 16. evolution | a. The number of individuals who possess favorable traits will increase in a population. |
| _____ 17. speciation | b. Species change in spurts with vast amounts of time between changes. |
| _____ 18. natural selection | c. Species change over time. |
| _____ 19. gradualism | d. A new species forms. |
| _____ 20. punctuated equilibrium | e. Species change slowly and constantly. |