

Darwin and His Theory of Evolution

Circle the correct answer.

1. The variety of living things is called biological / anatomical / physical diversity.
2. During his travels, Darwin made numerous observations and collected multiple rocks / specimens / shells that led him to propose a hypothesis.
3. The Galapagos Islands are located to the west of North America / South America / Africa.
4. The preserved remains of ancient organisms are descendants / homologs / fossils.
5. Darwin noted that many of the birds on the islands had differently shaped feathers / beaks / feet.
6. Darwin wondered if the animals living on the islands were once members of the same species / fossil / specimens.
7. Most people in Darwin's day believed the earth was only a few million / thousand / hundred years old.
8. Most Europeans believed that neither the planet nor its living species had stayed the same / changed over time.
9. Based on Hutton and Lyell's work, the earth's age is thought to be millions / thousands / hundreds of years old.
10. Darwin thought that if the earth could change over time, then why not fossils / living things / extinctions.
11. Lamarck's hypothesis was proven to be correct / incorrect.
12. The birds Darwin found turned out to be all finches / robins / water birds.
13. Alfred R. Wallace / James Hutton / Thomas Malthus gave Darwin an incentive to publish.
14. The title of Darwin's book is Evolution Theory / On the Origin of Species / Natural Selection.
15. The process by which humans decide which organisms reproduce is called natural / artificial / heritable selection.
16. Individuals that are not well suited to their environment, reproduce / survive / die.
17. Over time, natural selection results in changes in / speciation of the inherited characteristics of a population, which increase a species' variation / extinction / fitness in its environment..
18. If we look far enough back in history, we could find the common ancestor of all living things. This is known as the principle of speciation / extinction / common descent.
19. Darwin argued that living things have been staying the same / changing on Earth for millions of years.
20. Evidence for this process could be found in the fossil / species record, the geographic distribution of living species, body structures of living organisms, and similarities in early development, or geology / biology / embryology.
21. Darwin saw whales / fossils / finches as a record of the history of life on Earth.
21. Researchers have discovered many hundreds of transitional fossils that document various intermediate stages in the evolution of modern species from organisms that are now extinct / alive / decaying.
22. Structures that have different mature forms but develop from the same embryonic tissue are called homologous / vestigial / Malthusian structures.
23. Individual organisms differ, some of this variation / speciation / fitness is heritable.
24. Organisms produce more offspring than can breathe / survive / die.
25. Because more organisms are produced than can survive, they compete for / gather / destroy

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limited resources.

26. Each unique organism has different advantages and disadvantages. Individuals best suited for their environment survive and reproduce / die / move.

27. Species alive today are common / varied / descended with modification from ancestral species.

Short Answer

28. What is evolution? _____

29. Lamarck was the first to recognize what? _____

30. Describe Lamarck's hypothesis: _____

31. According to Lamarck's hypothesis, what would happen to a bird that did not use its wings? _____

32. Why did Darwin not publish right away? _____

33. What does the "struggle for existence" mean? _____

34. What is an adaptation? _____

35. Describe vestigial organs. _____

36. Give an example of a vestigial organ: _____

Matching

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|---|-------------------|
| 37. Estimates Earth to be millions of years old. | A. Thomas Malthus |
| 38. Set sail on the H.M.S. Beagle | B. James Hutton |
| 39. Proposed the idea of inheritance by acquired traits. | C. Charles Darwin |
| 40. Predicted that humans would outgrow their space and food. | D. Charles Lyell |

Multiple Choice

41. The ability of an organism to survive and reproduce in its natural environment is called:

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| A. natural selection | B. evolution |
| C. homologous | D. fitness |

42. Which of the following is an important concept in Darwin's theory of evolution by natural selection?

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| A. Struggle for Existence | B. Species change over time |
| C. Descent with modification | D. both A and B |
| E. all of the above | |

43. Which would an animal breeder use to produce cows that give more milk?

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| A. overproduction | B. genetic isolation |
| C. acquired characteristics | D. artificial selection |

44. Fitness is a result of:

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|----------------|----------------------|
| A. adaptations | B. common descent |
| C. homologies | D. natural selection |

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