**Evolution Test**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

\_\_\_\_ 1. Which of the following was NOT a source for Darwin’s ideas about evolution?

|  |  |
| --- | --- |
| a. | characteristics of Galápagos animals |
| b. | selective breeding by farmers and animal breeders |
| c. | the ideas and observations of Thomas Malthus and Charles Lyell |
| d. | scientists’ knowledge of genetic changes |

\_\_\_\_ 2. Which of the following is NOT an example of natural selection?

|  |  |
| --- | --- |
| a. | people breeding horses to run faster |
| b. | bacteria populations becoming resistant to antibiotics |
| c. | insect populations developing resistance to certain pesticides |
| d. | male birds of certain species developing colorful feathers to attract female mates |

\_\_\_\_ 3. The process consisting of separation, adaptation, and division is

|  |  |  |  |
| --- | --- | --- | --- |
| a. | mating. | c. | resistance. |
| b. | isolation. | d. | speciation. |

\_\_\_\_ 4. Over time, animals may change behavior or physical appearance in response to changes in the environment. What is this called?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | adaptation | c. | genetic change |
| b. | genetic variation | d. | resistance |

\_\_\_\_ 5. What is the process by which organisms that are better adapted to their environment survive and reproduce more successfully than less well adapted organisms do?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | species separation | c. | genetic change |
| b. | genetic resistance | d. | natural selection |

\_\_\_\_ 6. A characteristic that can be passed from parent to offspring through genes is called a

|  |  |  |  |
| --- | --- | --- | --- |
| a. | resistance. | c. | genetic change. |
| b. | sediment. | d. | trait. |

\_\_\_\_ 7. Scientists compare organisms’ DNA to support the theory that all species share a common

|  |  |  |  |
| --- | --- | --- | --- |
| a. | separation. | c. | population. |
| b. | ancestor. | d. | environment. |

\_\_\_\_ 8. A spider may produce hundreds of eggs, only a few of which may survive. This is an example of

|  |  |  |  |
| --- | --- | --- | --- |
| a. | overproduction. | c. | genetic change. |
| b. | speciation. | d. | division. |

\_\_\_\_ 9. Which of the following is NOT an example of natural selection?

|  |  |
| --- | --- |
| a. | elephants passing the tuskless trait to their offspring |
| b. | male birds developing extremely colorful displays of feathers |
| c. | insects developing pesticide resistance |
| d. | dog owners breeding their pets to produce friendlier offspring |

\_\_\_\_ 10. A characteristic that improves an organism’s ability to survive is a(n)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | adaptation. | c. | reproduction. |
| b. | inherited variation. | d. | breeding. |

\_\_\_\_ 11. Darwin could not answer all of the questions regarding his new theory, because he did not know about

|  |  |  |  |
| --- | --- | --- | --- |
| a. | adaptation. | c. | reproduction. |
| b. | inherited variation. | d. | genetics. |

\_\_\_\_ 12. Darwin theorized that individuals having an advantage due to their traits or abilities will be more likely to survive and reproduce. His theory is known as

|  |  |  |  |
| --- | --- | --- | --- |
| a. | evolution. | c. | adaptation. |
| b. | speciation. | d. | natural selection. |

\_\_\_\_ 13. Trace remains of organisms that lived long ago are called what?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | adaptations | c. | genetics |
| b. | fossils | d. | offspring |

\_\_\_\_ 14. What did Charles Darwin help to explain?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | the age of Earth | c. | how fossils are formed |
| b. | how species change over time | d. | genetics |

\_\_\_\_ 15. Which of the following did NOT help Darwin create his theory?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | the age Earth | c. | knowledge of genetics |
| b. | the birds of the Galápagos | d. | selective breeding of dogs and horses |

\_\_\_\_ 16. What helps an organism survive in its environment?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | adaptation | c. | division |
| b. | separation | d. | resistance |

\_\_\_\_ 17. What is a trait?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | a kind of fossil | c. | a new species |
| b. | a genetic change | d. | a genetically determined characteristic |

\_\_\_\_ 18. Which of the following is NOT a result of natural selection?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | horses that are bred to be faster | c. | bacteria that survive antibiotics |
| b. | insects that are able to resist insecticides | d. | elephants that are born without tusks |

\_\_\_\_ 19. Which of the following do scientists think was an ancestor of whales?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | a large tree | c. | a shark |
| b. | an ancient fish | d. | an ancient land mammal |

\_\_\_\_ 20. After visiting the Galápagos Islands, why did Darwin wait to publish his ideas on evolution and natural selection?

|  |  |
| --- | --- |
| a. | He was afraid that his father would disapprove of his theories. |
| b. | The printing press was not invented until 15 years later. |
| c. | He waited until he had enough supporting evidence from his own research and from other scientists. |
| d. | He immediately embarked on another journey to Asia and Africa to collect more data. |

**Completion**

*Complete each statement.*

 21. Species producing more offspring than will survive to maturity is the part of natural selection called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 22. Individuals in a population having traits that either increase or decrease their chance of survival is the part of natural selection called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 23. Individuals in a population competing for limited resources is the part of natural selection called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 24. Individuals in a population being more likely to survive and pass their adaptive traits to their offspring is the part of natural selection called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 25. Species that are closely related are more likely to have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DNA.

*Use the terms from the following list to complete the sentences below.*

|  |  |
| --- | --- |
| genetic code | reproduce |
| well adapted | natural selection |
| behavioral | environment |

 26. The theory of natural selection explains how a population changes in response to its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 27. If natural selection is taking place, a population will tend to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to its environment.

 28. The individuals that are likely to survive and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the ones that are the best adapted at the time.

 29. Scientists have learned that traits are inherited through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of DNA.

 30. After the 1850s, pollution caused tree trunks to become darker. The dark peppered moth could blend in with the dark tree trunks, which kept them from being eaten by predators, and the dark peppered moth population increased. This is an example of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in action.

 31. An adaptation that helps an organism find food, protect itself, or reproduce is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ adaptation.

*Use the terms from the following list to complete the sentences below. Some terms will not be used.*

|  |  |
| --- | --- |
| evolution | selective breeding |
| offspring | fossils |
| trait | selection |
| speciation | natural selection |
| resistant |  |

 32. The slow process of change through natural selection or genetic change is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 33. The formation of new species as a result of evolution is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 34. Evidence of common ancestors can be found in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and living organisms.

 35. Farmers and animal breeders choose to breed animals with desirable traits in a process known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 36. When an organism with a gene that helps it survive and reproduce actually reproduces, the process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs.

*Use the terms from the following list to complete the sentences below.*

|  |  |
| --- | --- |
| species | population |
| selective breeding | evolution |
| fossil record | generation time |

 37. Slow changes in populations over time are known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 38. A group that can mate and have fertile offspring is a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 39. The time between one generation of offspring and the next is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 40. The history of life shown by remains of once-living organisms is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Matching**

*Match each with the correct statement below.*

|  |  |  |  |
| --- | --- | --- | --- |
| a. | adaptation | d. | species |
| b. | fossil | e. | evolution |
| c. | fossil record | f. | tree of life |

\_\_\_\_ 41. the sequence of life’s history as indicated by fossils

\_\_\_\_ 42. a characteristic that improves an organism’s ability to survive

\_\_\_\_ 43. the slow process that results in new species

\_\_\_\_ 44. a model showing every known species on earth

\_\_\_\_ 45. the remains or imprint of an organism

*Match each with the correct statement below.*

|  |  |  |  |
| --- | --- | --- | --- |
| a. | generation time | d. | speciation |
| b. | division | e. | separation |
| c. | adaptation |

\_\_\_\_ 46. the formation of a new species as a result of evolution

\_\_\_\_ 47. the average time between the birth of one generation and the birth of the next generation

\_\_\_\_ 48. the splitting apart of a portion of a population

\_\_\_\_ 49. the evolving of traits in response to environmental conditions

\_\_\_\_ 50. the result of two groups becoming so different that they may no longer interbreed