Bio-10-Q2W2-H.W.-Evolution

Completion

Complete each statement.

- A. gene pool
- B. allelic frequency
- C. camouflage
- D. reproductive isolation
- E. gradualism
- F. punctuated equilibrium
- G. mimicry
- H. Speciation
- I. Stabilizing selection
- J. Natural selection
- K. adaptive radiation
- L. polyploid
- M. Artificial selection
- N. genetic drift
- O. Fossil
- P. vestigial structure
- 1. Polyploid speciation is perhaps the fastest form of speciation because it results in immediate
- 2. The total number of genes present in a population is the ______.
- 3. The ______ is the percentage of a particular allele in a population.
- 4. A structural adaptation enabling an organism to blend in with its environment is ______.
- 5. _____ can occur only when either interbreeding or the production of fertile offspring is prevented among members of a population.
- 6. The hypothesis that species originate through a slow buildup of new adaptations is known as ______.
- 7. A variety of structural adaptations called ______ provides protection for an organism by copying the appearance of another species.
- 9. ______ is a mechanism for change in a population in which organisms with favorable variations live, reproduce, and pass on their favorable traits.
- 10. ______ is the type of selection that favors average individuals in a population.
- 11. The evolution of an ancestral species into an array of species that occupy diverse habitats is called
- 12. Any species with a multiple set of chromosomes is known as a(n) ______.

- 13. Any structure that is reduced in function in a living organism but may have been used in an ancestor is known as a(n) ______.
- 14. The alteration of allelic frequencies by chance processes is known as ______.
- 15. ______ occurs when formerly interbreeding organisms are prevented from producing fertile offspring.
- 16. ______ is a technique in which the breeder selects particular traits.
- 17. This hypothesis is supported by evidence from the _____ record.
- 18. The concept that evolution occurs over long periods of stability that are interrupted by geologically brief periods of change is known as ______.

Multiple Choice

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

- 19. The flying squirrel of North America closely resembles the flying phalanger of Australia. They are similar in size and have long, bushy tails and skin folds that allow them to glide through the air. The squirrel is a placental mammal, while the phalanger is a marsupial. These close resemblances, even though genetically and geographically separated by great distances, can best be explained by _____.
 a. convergent evolution
 - b. spontaneous generation d. vestigial structures
- 20. Hawaiian honeycreepers are a group of birds with similar body shape and size. However, they vary greatly in color and beak shape. Each species occupies its own niche and is adapted to the foods available in its niche. The evolution from a common ancestor to a variety of species is an example of _____.
 - a. vegetative propagation c. divergent evolution
 - b. convergent evolution d. cross-pollination
- _____ 21. _____ selection favors one extreme form of a trait in a population.
 - a. Natural c. Directional
 - b. Stabilizing d. Disruptive
- _____ 22. What is the movement of genes into and out of a gene pool called?
 - a. direct evolution c. gene flow
 - b. nonrandom mating d. random mating



- 23. Which type of natural selection shown in Figure 15-6 would favor giraffes that need to reach the tallest branches to eat?
 - a. B c. D b. A d. C
- ____ 24. Which type of natural selection showed in Figure 15-6 favors average individuals?
 - a. A c. C b. D d. B
- _____ 25. Natural selection can best be defined as the _____
 - a. survival of the biggest and strongest organisms in a population
 - b. survival and reproduction of the organisms that occupy the largest area
 - c. elimination of the smallest organisms by the biggest organisms
 - d. survival and reproduction of the organisms that are genetically best adapted to the environment
 - _ 26. The founder of modern evolution theory is considered to be __
 - a. Alexander Oparin c. Lynn Margulis
 - b. Charles Darwin d. Stephen Jay Gould
- _____ 27. In ______ selection, individuals with both extreme forms of a trait are at a selective advantage.
 - a. directional c. stabilizing
 - b. natural d. disruptive
- _____ 28. Natural processes such as speciation and gradualism provide the genetic basis for ______.
 - a. sexual reproduction c. evolution
 - b. spontaneous generation d. biogenesis
- _____ 29. What type of adaptation is shown in Figure 15-4?



Figure 15-4

a. artificial selection

b. camouflage

- c. homologous structure
- d. mimicry

- 30. A pattern of evolution that results when two unrelated species begin to appear similar because of environmental conditions is _____.
 - a. directional selection

c. disruptive selection

b. convergent evolution

- d. divergent evolution
- 31. When checking shell color for a species of snail found only in a remote area seldom visited by humans, scientists discovered the distribution of individuals that is shown in the graph in Figure 15-1. Based on the information shown in the graph, the snail population is undergoing _____.



Figure 15-1

- a. disruptive selection
- b. artificial selection

- c. directional selection
- d. stabilizing selection
- 32. Which of the following is <u>not</u> a factor that causes changes in the allelic frequencies of individuals in a population?
 - a. stabilizing selectionb. random selection

- c. disruptive selection
- d. directional selection
- _ 33. The theory of continental drift hypothesizes that Africa and South America slowly drifted apart after once being a single landmass. The monkeys on the two continents, although similar, show numerous genetic differences. Which factor is probably the most important in maintaining these differences?
 - a. comparative embryology c. fossil records
 - b. comparative anatomy d. geographic isolation
- _____ 34. The average individuals of a population are favored in ______ selection.
 - a. stabilizing c. natural
 - b. disruptive d. directional
- ____ 35. Structures that have a similar evolutionary origin and structure but are adapted for different purposes, such as a bat wing and a human arm, are called _____.
 - a. analogous structuresb. homologous structures
- c. homozygous structures
- d. embryological structures
- _____ 36. The structures shown in Figure 15-5 are _____



Figure 15-5

- a. heterologous
- b. analogous

- c. homologous
- d. vestigial

37. Why might the beak of the Akialoa, pictured in Figure 15-7, developed this way?



True/False

Indicate whether the statement is true or false.

- _____ 44. The tortoises of the Galápagos Islands are among the largest on Earth.
- _____ 45. Darwin named the process by which evolution proceeds *artificial* selection.
- _____ 46. After returning to England, Darwin studied his collections for 10 years.
- 47. The environments that Darwin studied exhibited little biological diversity.
- 48. H.M.S. *Beagle*, upon which Charles Darwin served as naturalist, set sail on a collecting and mapping expedition in 1831.
- 49. By careful anatomical study, Darwin found that the many species of plants and animals on the Galápagos Islands were unique and bore no relation to species seen in other parts of the world.
