

DUE DATE _____

2nd Semester Final Exam Review- PRACTICE TEST: EVOLUTION & SPECIATION Units 15 & 16

- _____ 1. On the Galápagos Islands, Charles Darwin observed
- completely unrelated species on each of the islands.
 - species exactly like those found in South America.
 - somewhat similar species, with traits that suited their particular environments.
 - species completely unrelated to those found in South America.
- _____ 2. Based on the adaptations Charles Darwin observed in finches and tortoises in the Galápagos, he wondered
- if species living on different islands had once been members of the same species.
 - if finches and tortoises had originated from the same ancestral species.
 - if all birds on the different islands were finches.
 - why all tortoises on the different islands were identical.
- _____ 3. In the 1800s, Charles Lyell emphasized that
- the human population will outgrow the available food supply.
 - all populations evolve through natural selection.
 - Earth is a few thousand years old.
 - past geological events must be explained in terms of processes observable today.
- _____ 4. Lamarck's theory of evolution includes the concept that new organs in a species appear as a result of
- continual increases in population size.
 - the actions of organisms as they use or fail to use body structures.
 - an unchanging local environment.
 - the natural variations already present within the population of organisms.
- _____ 5. The idea that only famine, disease, and war could prevent the endless growth of human populations was presented by
- Charles Darwin.
 - Jean-Baptiste Lamarck.
 - Thomas Malthus.
 - Charles Lyell.
- _____ 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 vice governor of the Galápagos Islands.
 - the work of Hutton and Lyell.
- _____ 7. Why might Darwin have hesitated to publish his concept of evolution by natural selection?
- He realized it was not supported by his data.
 - He felt it was too similar to Lamarck's to be considered original.
 - He was disturbed by his findings, which challenged fundamental scientific beliefs.
 - He realized that his idea was contradicted by the work of Hutton and Lyell.
- _____ 8. Charles Darwin's observation that finches of different species on the Galápagos Islands have many similar physical characteristics supports the hypothesis that these finches
- have the ability to interbreed.
 - acquired traits through use and disuse.
 - all eat the same type of food.
 - descended from a common ancestor.
- _____ 9. When a farmer breeds only his or her best livestock, the process involved is
- natural selection.
 - artificial selection.
 - artificial variation.
 - survival of the fittest.
- _____ 10. Charles Darwin called the ability of an organism to survive and reproduce in its specific environment
- diversity.
 - fitness.
 - adaptation.
 - evolution.

- ___ 11. According to Darwin's theory of natural selection, the individuals that tend to survive are those that have
- characteristics their parents acquired by use and disuse.
 - characteristics that plant and animal breeders value.
 - the greatest number of offspring.
 - variations best suited to the environment.
- ___ 12. Which of the following phrases best describes the results of natural selection?
- the natural variation found in all populations
 - unrelated but similar species living in different locations
 - changes in the inherited characteristics of a population
 - the struggle for existence undergone by all living things
- ___ 13. The number and location of bones of many fossil vertebrates are similar to those in living vertebrates. Most biologists would probably explain this fact on the basis of
- the needs of the organisms.
 - a common ancestor.
 - the struggle for existence.
 - the inheritance of acquired traits.
- ___ 14. Charles Darwin viewed the fossil record as
- evidence that Earth was thousands of years old.
 - a detailed record of evolution.
 - interesting but unrelated to the evolution of modern species.
 - evidence that traits are acquired through use or disuse.
- ___ 15. 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.
- ___ 16. Darwin's theory of evolution is based on the idea(s) of
- heritable variation and natural selection.
 - use and disuse.
 - a tendency toward perfect, unchanging species.
 - the transmission of acquired characteristics.
- ___ 17. The same kinds of cells that grow in similar patterns in different but related organisms produce
- homologous structures such as wings and arms.
 - the same kind of embryos.
 - natural variations in a population.
 - descent with modification.
- ___ 18. Which phrase best defines evolution by natural selection?
- an adaptation of a species to its environment
 - a sudden replacement of one population by another
 - changes in a species as it becomes more perfect
 - a process of change in species over time
- ___ 19. Which of the following statements describe what all members of a population share?
- They are temporally isolated from each other.
 - They are geographically isolated from each other.
 - They are members of the same species.
 - They have identical genes.
- ___ 20. All the genes of all members of a particular population make up the population's
- relative frequency.
 - phenotype.
 - genotype.
 - gene pool.
- ___ 21. Which statement below about gene pools is typically true?
- They contain two or more alleles for each inheritable trait.
 - They contain only dominant alleles.
 - They belong to two or more interbreeding species.
 - The relative frequencies of the alleles never change.

- _____ 22. Interbreeding among members of a population results in
- different types of alleles in the gene pool.
 - changes in the relative frequencies of alleles in the gene pool.
 - no changes in the relative frequencies of alleles in the gene pool.
 - an absence of genetic variation in the population.
- _____ 23. In a population, the sum of the relative frequencies of all alleles for a particular trait is
- equal to 100 percent.
 - equal to the number of alleles for the trait.
 - constantly changing.
 - dependent on the number of alleles.
- _____ 24. The two main sources of genetic variation are
- genotypes and phenotypes.
 - gene shuffling and mutations.
 - single-gene traits and polygenic traits.
 - directional selection and disruptive selection.
- _____ 25. In many kinds of organisms, inheritable differences are due mostly to
- mutations during gamete formation.
 - polygenic traits.
 - gene shuffling during gamete formation.
 - the effects of radiation.
- _____ 26. Gene shuffling includes the independent movement of chromosomes during meiosis as well as
- mutations from radiation.
 - changes in the frequencies of alleles.
 - crossing-over.
 - mutations from chemicals.
- _____ 27. The number of phenotypes produced for a given trait depends upon
- the number of genes that control the trait.
 - which form of the trait is dominant.
 - the relative frequencies of the various alleles.
 - the relationship of allele frequencies to Mendelian ratios.
- _____ 28. When individuals at only one end of a bell curve of phenotype frequencies have high fitness, the result is
- directional selection.
 - stabilizing selection.
 - disruptive selection.
 - genetic drift.
- _____ 29. When individuals with an average form of a trait have the highest fitness, the result is
- not predictable.
 - disruptive selection.
 - directional selection.
 - stabilizing selection.
- _____ 30. In a population of finches in which one group of birds has a short, parrotlike beak and another group has a long, narrow beak, what process has probably occurred?
- directional selection
 - disruptive selection
 - stabilizing selection
 - genetic drift
- _____ 31. Genetic drift tends to occur in populations that
- are very large.
 - are small.
 - are formed from new species.
 - have unchanging allele frequencies.
- _____ 32. The separation of populations by barriers such as rivers, mountains, or bodies of water is called
- temporal isolation.
 - geographic isolation.
 - behavioral isolation.
 - genetic equilibrium.
- _____ 33. What situation might develop in a population having some plants whose flowers open at midday and other plants whose flowers open late in the day?
- behavioral isolation
 - geographic isolation
 - temporal isolation
 - genetic drift

