

Name \_\_\_\_\_

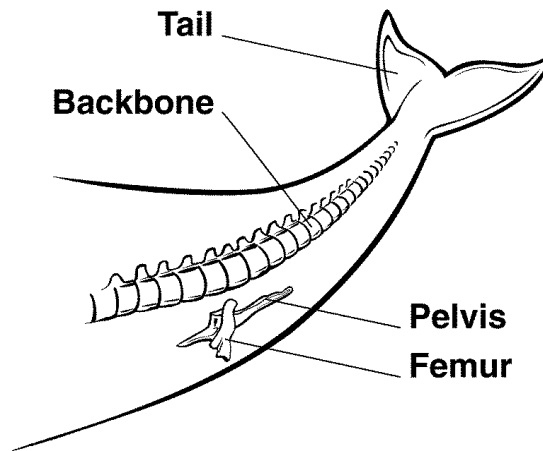
Date \_\_\_\_\_

Class \_\_\_\_\_

Evolution HW

- \_\_\_\_\_ 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. The species of finches that Charles Darwin found on the Galápagos Islands displayed different structural adaptations. One of the adaptations that Darwin noted was the
- similarities of the birds' embryos.
  - birds' different-shaped beaks.
  - length of the birds' necks.
  - number of eggs in each bird's nest.
- \_\_\_\_\_ 3. 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.
- \_\_\_\_\_ 4. 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.
- \_\_\_\_\_ 5. What did Charles Darwin learn from reading the work of James Hutton and Charles Lyell?
- Earth is relatively young.
  - Earth is very old.
  - All geological change is caused by living organisms.
  - The processes that formed old rocks on Earth do not operate today.
- \_\_\_\_\_ 6. Jean-Baptiste Lamarck proposed that organisms
- have an innate tendency toward complexity and perfection.
  - have an innate tendency to become simpler as time passes.
  - inherit all of the adaptations they display.
  - belong to species that never change.
- \_\_\_\_\_ 7. Which is a major concept included in Lamarck's theory of evolution?
- Change is the result of survival of the fittest.
  - Body structure can change according to the actions of the organism.
  - Population size decreases the rate of evolution.
  - Artificial selection is the basis for evolution.
- \_\_\_\_\_ 8. In each generation, the wings of experimental fruit flies were clipped short for fifty generations. The fifty-first generation emerged with normal-length wings. This observation would tend to disprove the idea that evolution is based on
- inheritance of natural variations.
  - inheritance of acquired characteristics.
  - natural selection.
  - survival of the fittest.
- \_\_\_\_\_ 9. The economist Thomas Malthus suggested that
- in the human population, people die faster than babies are born.
  - there would soon be insufficient food for the growing human population.
  - in the 1700s, England needed more housing.
  - the majority of a species' offspring die.
- \_\_\_\_\_ 10. In 1859, Charles Darwin published his revolutionary scientific ideas in a work titled
- Principles of Geology*.
  - Essay on the Principle of Population*.
  - Evolution in Malaysia*.
  - On the Origin of Species*.

- \_\_\_ 11. When a farmer breeds only his or her best livestock, the process involved is
- natural selection.
  - artificial selection.
  - artificial variation.
  - survival of the fittest.
- \_\_\_ 12. According to Darwin's theory of natural selection, individuals who survive are the ones best adapted for their environment. Their survival is due to the
- possession of adaptations developed through use.
  - possession of inherited adaptations that maximize fitness.
  - lack of competition within the species.
  - choices made by plant and animal breeders.
- \_\_\_ 13. When farmers select animals or plants to use for breeding, they look for
- species that are perfect and unchanging.
  - homologous structures.
  - traits that are produced artificially.
  - natural variations that are present in a species.
- \_\_\_ 14. Which statement about the members of a population that live long enough to reproduce is consistent with the theory of natural selection?
- They transmit characteristics acquired by use and disuse to their offspring.
  - They tend to produce fewer offspring than others in the population.
  - They are the ones that are best adapted to survive in their environment.
  - They will perpetuate unfavorable changes in the species.
- \_\_\_ 15. Charles Darwin called the ability of an organism to survive and reproduce in its environment
- diversity.
  - fitness.
  - adaptation.
  - evolution.
- \_\_\_ 16. 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.
- \_\_\_ 17. 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
  - the changes in the inherited characteristics of a population
  - the struggle for existence undergone by all living things
- \_\_\_ 18. Darwin's theory of evolution is based on the idea(s) of
- natural variation and natural selection.
  - use and disuse.
  - a tendency toward perfect, unchanging species.
  - the transmission of acquired characteristics.
- \_\_\_ 19. Which statement is in agreement with Darwin's theory of evolution?
- More offspring are produced than can possibly survive.
  - The organisms that are the fittest are always largest and strongest.
  - The number of offspring is not related to fitness.
  - Acquired characteristics that are inherited are the cause of evolution.
- \_\_\_ 20. Which concept is NOT included in the modern theory of evolution?
- descent with modification
  - natural selection
  - transmission of acquired characteristics
  - competition among the members of a population
- \_\_\_ 21. 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



- \_\_\_ 22. In humans, the pelvis and femur, or thigh bone, are involved in walking. In whales, the pelvis and femur shown in Figure 15-1 are
- examples of fossils.
  - vestigial structures.
  - acquired traits.
  - examples of natural variation.
- \_\_\_ 23. 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.
  - originated from a common ancestor.
- \_\_\_ 24. Modern sea star larvae (think of larvae as similar to embryos) resemble some primitive vertebrate larvae. This similarity may suggest that primitive vertebrates
- share a common ancestor with sea stars.
  - evolved from sea stars.
  - evolved before sea stars.
  - belong to the same species as sea stars.
- \_\_\_ 25. Darwin's concept of evolution was NOT influenced by
- the work of Charles Lyell.
  - knowledge about the structure of DNA.
  - his collection of specimens.
  - his trip on the H.M.S. *Beagle*.
- \_\_\_ 26. 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.
- \_\_\_ 27. 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.
- \_\_\_ 28. 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.