**Name**

**MC Practice**
**Evolution Chapter 29**

1. Finches on the Galapagos Islands express a variety of traits. Variability in the offspring of these finches is a result of

   A) mutation and cloning
   B) meiosis and mutation
   C) mitosis and asexual reproduction
   D) mitosis and genetic recombination

2. A chemical was added to hand sanitizers and dish detergents to kill bacteria. Certain species of bacteria are no longer killed by this chemical. One likely reason for the decreased effectiveness of this chemical is that these bacteria have

   A) slower metabolic rates
   B) a mutation for resistance
   C) been selectively bred for survival
   D) an adaptation to a different niche

3. The theory of evolution states that

   A) species that are extinct have no biological relationship to living species
   B) different animal species always interbreed to form new and different species
   C) species change over time, sometimes developing into new species
   D) the environment of Earth is constant over time

4. Over time, data that support the successful evolution of a species would include observations that describe

   A) an increase in the genetic changes occurring in body cells
   B) a decrease in the genetic variety carried in sex cells
   C) an increase in the proportion of offspring that have favorable characteristics
   D) a decrease in the proportion of the population that has beneficial traits

5. Natural selection produces changes most quickly in

   A) species with short reproductive cycles
   B) individual pathogens killed by antibiotics
   C) complex multicellular organisms
   D) individuals that produce a small number of offspring

6. A shark and a dolphin have similarly shaped bodies and fins. However, these two organisms are not closely related: The shark is a fish, and the dolphin is a mammal. Some species may have similar body structures even if they are not related because they evolved in

   A) similar environments and specific traits increased their chances of survival
   B) similar environments and were exposed to factors that caused exactly the same mutations
   C) different environments, but tried to adapt in the same ways so they could survive
   D) different environments, but ate similar foods that affected their growth and development

7. Certain antibacterial soaps kill 99% of the bacteria present on hands. Constant use of these soaps could be harmful over time because

   A) more pathogens may be resistant to the soap
   B) microbes prevent viral diseases
   C) large populations of pathogens are beneficial to the hands
   D) the soap stimulates skin cell division

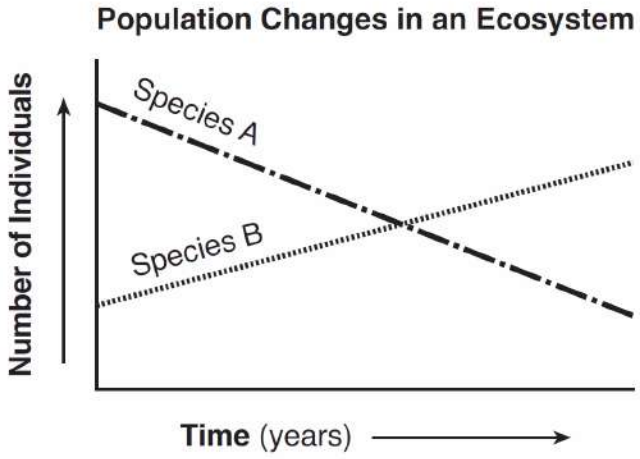
8. A man lifts weights and develops large arm muscles. His son has larger muscles than his father had at the same age. According to Lamarck's theory, this situation is due to

   A) competition between father and son
   B) survival of the fittest
   C) inheritance of acquired characteristics
   D) mutagenic agents

9. A population of animals is permanently split by a natural barrier into two separate populations in different environments. What will likely result after a long period of time?

   A) The evolution of the two populations will be identical.
   B) The production of variations will stop in the two populations.
   C) The two populations will evolve into separate species.
   D) Autotrophic nutrition will replace heterotrophic nutrition in the two populations.

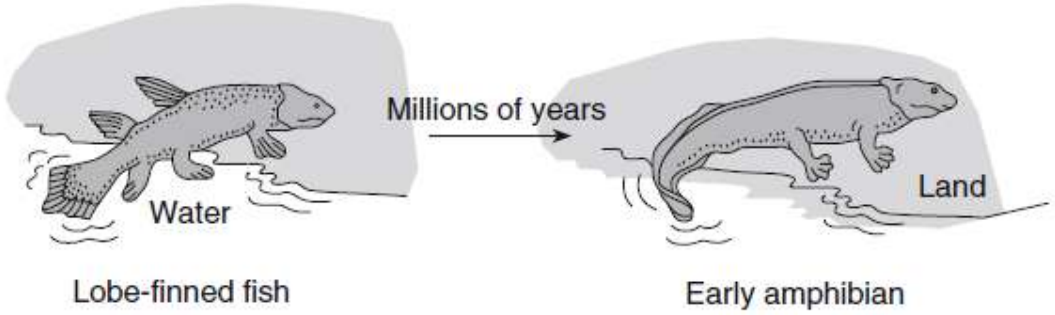
10. The graph below represents the populations of two different species in an ecosystem over a period of several years.




Which statement is a possible explanation for the changes shown?

A) Species *A* is better adapted to this environment.
B) Species *A* is the predator of Species *B*.
C) Species *B* is better adapted to this environment.
D) Species *B* is a parasite that has benefited species *A*.

11. The diagram below represents one possible evolutionary change that could have led lobe-finned fish to develop into the first amphibians. Amphibians are animals that live on land some of their life.

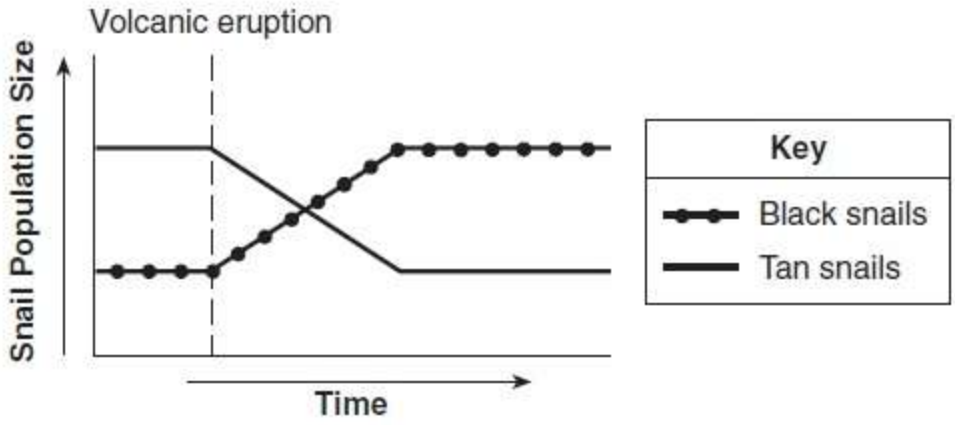



This change from fins on the lobe-finned fish to legs and feet on the early amphibian is most likely due to

A) a sudden mutation that changed the gills of the lobe-finned fish to lungs
B) increased competition between animals that had adapted to living on the land
C) the need to move to land because of increased competition for food in the ocean
D) variations among offspring, followed by natural selection

12. Base your answer to the following question on the information and graph below and on your knowledge of biology.

A population composed of tan snails and black snails inhabits the same sandy beach. A nearby volcano erupted, and black lava particles washed down to the beach. The once tan beach was now black. The graph below shows the population of tan snails and black snails before and after the volcanic eruption.




The increase in the number of black snails can best be explained by

A) natural selection after an environmental change
B) climatic change followed by ecological succession
C) increased stability due to a decrease in variation
D) an increase in mutation rate

13. The Florida panther, a member of the cat family, has a population of fewer than 100 individuals and has limited genetic variation. Which inference based on this information is valid?

A) These animals will begin to evolve rapidly.
B) Over time, these animals will become less likely to survive in a changing environment.
C) These animals are easily able to adapt to the environment.
D) Over time, these animals will become more likely to be resistant to disease.

14. Darwin was unable to explain completely his theory of evolution because he lacked knowledge of

A) natural selection
B) overproduction
C) survival of the fittest
D) the source of variations

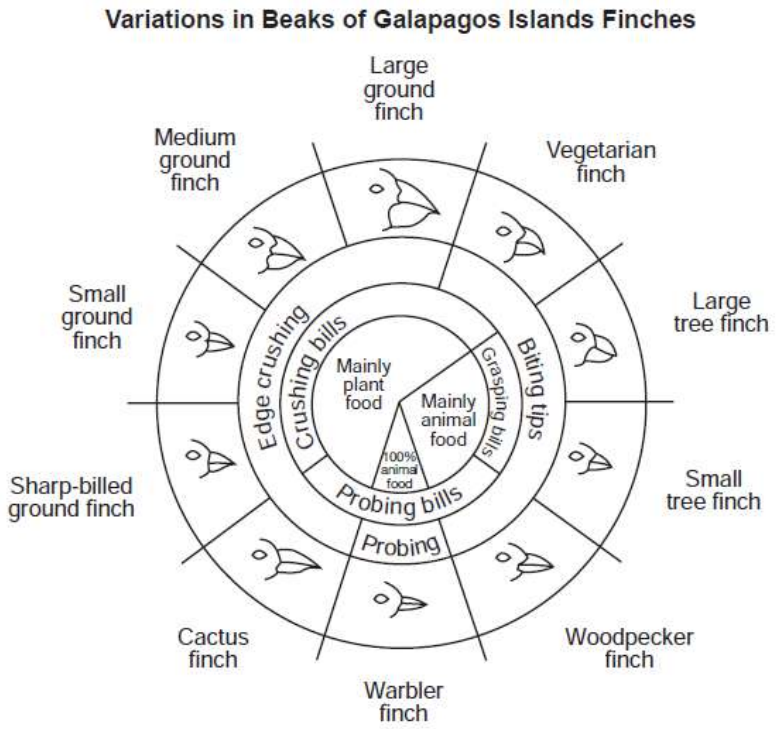
15. In 1889, August Weismann, a German biologist, conducted an experiment attempting to produce mice without tails. He cut the tails off adult mice and then permitted them to mate. All offspring had long tails. He repeated the experiment many times, always with the same results. This experiment helped to *disprove* the concept of

A) overproduction in a species
B) inheritance of acquired characteristics
C) survival of the fittest
D) struggle for existence

16. The different tools used during the beaks of finches lab represented

A) feeding adaptations in finches
B) nest construction adaptations
C) variations in seed size
D) variations in ecosystems

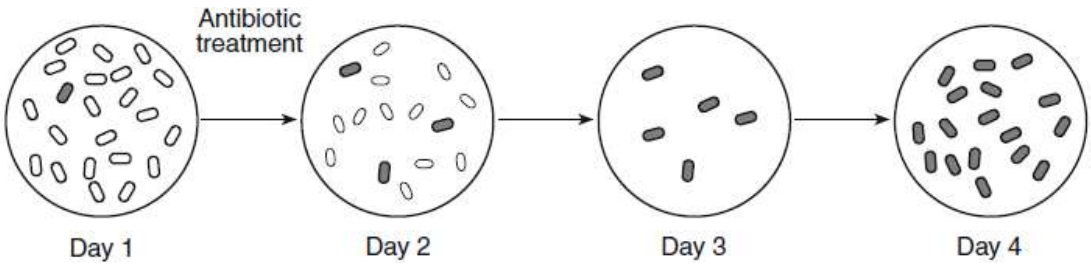
17. Base your answer to the following question on the diagram below that shows variations in the beaks of finches in the Galapagos Islands and on your knowledge of biology.




from: *Galapagos: A Natural History Guide*

The number of small tree finches is increasing on an island inhabited by a large population of small ground finches. State *one* reason why the population of small ground finches has *not* been affected by the increasing number of small tree finches.

18. The diagram below represents some changes that took place in a bacterial population recently exposed to an antibiotic.

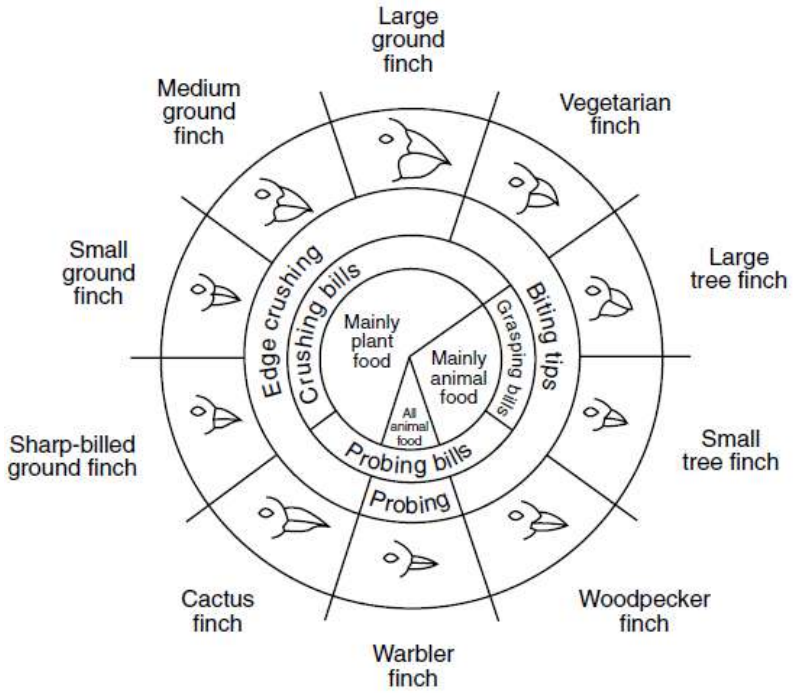



Which statement would best explain the presence of bacteria on day 4?

A) A bacterial population cannot survive exposure to antibiotics.
B) This bacterial population cannot survive exposure to this antibiotic.
C) Bacteria can change whenever it is necessary to survive antibiotic treatment.
D) Some of the bacterial population was resistant to this antibiotic.

19. The diagram below represents the relationship between beak structure and food in several species of finches found on the Galapagos Islands.

**Variations in Beaks of Galapagos Islands Finches**

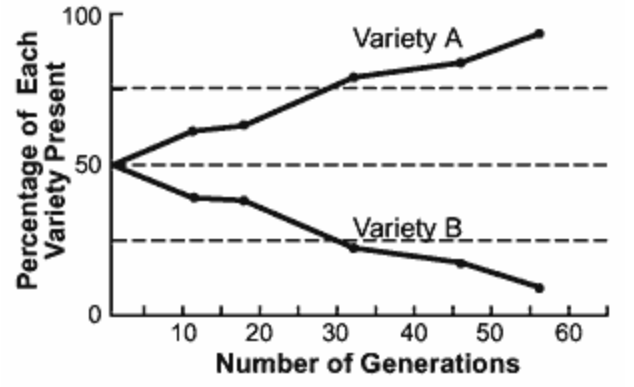



From: *Galapagos: A Natural History Guide*

The different beak structures observed in the diagram are evidence of

A) different species of finches adapting to different environments over many generations
B) finches changing their beak characteristics so that they could feed efficiently
C) finch species with different beak structures coming to the Galapagos Islands from the mainland
D) finches mating with birds of other species and acquiring some of their traits

20. What is the most probable reason for the increase in the percentage of variety *A* in the population of the species shown in the graph below?




A) There is no chance for variety *A* to mate with variety *B*.
B) There is no genetic difference between variety *A* and variety *B*.
C) Variety *A* is less fit to survive than variety *B* is.
D) Variety *A* has some adaptive advantage that variety *B* does not have.