Biology Standard 6 All elements

Name: _____ **Date:** _____

1. A bird called a ptarmigan has feathered feet. The feathers on the feet of the ptarmigan are *most* helpful when this bird

   A. digs up food.

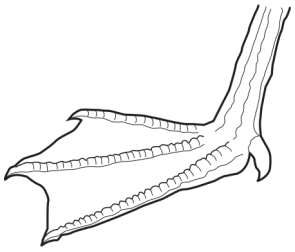
   B. walks in deep snow.

   C. climbs rocky cliffs.

   D. runs under bushes.

2. Which bird foot is *best* for swimming?

   A.



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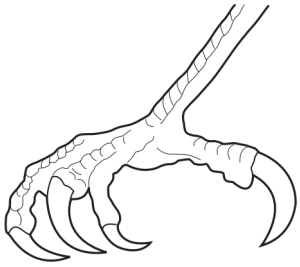

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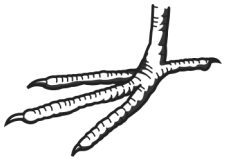

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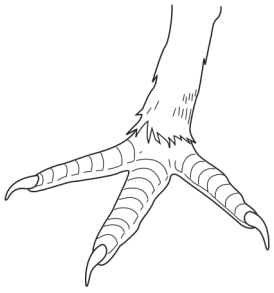


3. Geologic activity on an island physically separates a population of animals into two populations. Many generations later, when the two populations are no longer separated, they do not interbreed. What was the result of natural selection during this period of separation?

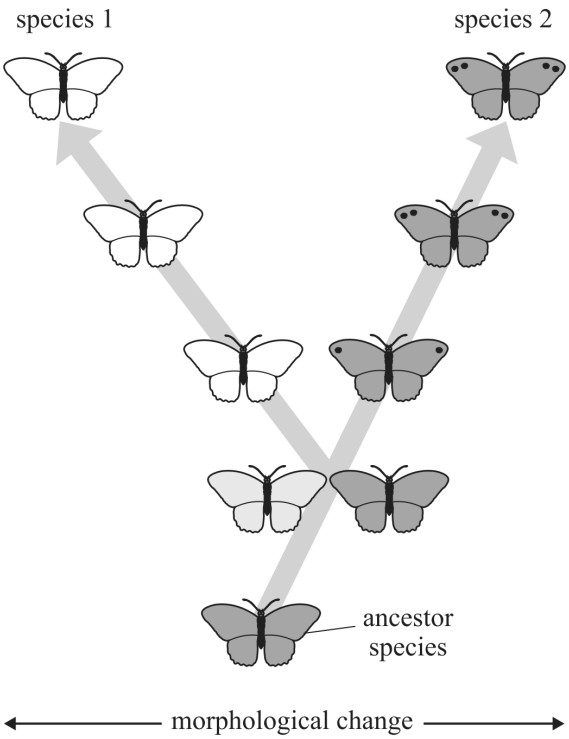
A. a decrease in variation

B. a decrease in diversification

C. an increase in extinction

D. an increase in speciation

4. The illustration below shows the morphological change of two species.



Which statement explains why species 1 and species 2 are different?

A. An individual changed itself to suit the environment.

B. Natural selection can cause gradual speciation changes.

C. Interbreeding of species 2 results in no genetic mutations.

D. Extinction of ancestor species occurs as a result of interbreeding.

5. Western coral snakes have a striped color pattern and are poisonous. Arizona mountain kingsnakes look like western coral snakes but are not poisonous.

   The color pattern of the Arizona mountain kingsnake is an example of

   A. camouflage.
   B. mimicry.
   C. mutualism.
   D. parasitism.

6. Ducks live near ponds and lakes. The shape of a duck's foot helps it swim and walk on muddy ground. Which factor is *most* important in determining the shape of a baby duck's foot?

   A. the shape of the parent ducks' feet
   B. the temperature of the pond water
   C. the amount of mud in the bottom of the pond
   D. the amount of rain that fell before the duck was born

7. A termite population was sprayed with a certain brand of insecticide. After being sprayed, the number of surviving termites within the population were counted and recorded as a percentage of the total. This process was repeated until a total of six generations of termites had been sprayed. The results are shown in the table below.

Termite Generation	Percentage of Surviving Termites After Spraying
1	5%
2	10%
3	25%
4	40%
5	60%
6	80%

   Which statement *best* explains why later generations had higher percentages of termites that survived?

   A. Earlier generations had several members that were old and weak.
   B. Earlier generations had smaller numbers of termites than later generations.
   C. Later generations were able to live through the spraying because they were used to it.
   D. Later generations were the offspring of termites that were more resistant to the spraying.

8. Which statement about fossils could be used as evidence that evolution by natural selection has been in effect for millions of years?

A. Fossils found in higher layers of rock are older than those found in lower layers.

B. Fossils found in lower layers of rock are more complex than those found in higher layers.

C. Fossils of current species have been found throughout rock layers that are billions of years old.

D. Fossils of species that no longer exist but are ancestors of current species have been found in rock layers.

9. A tree frog population lives in the canopy of a tropical rain forest. In this tree frog population, a mutation occurs that results in a new allele for skin coloration causing stripes on their legs.

Which of the following factors has the *greatest* effect on whether leg stripes will become more common in the tree frog population?

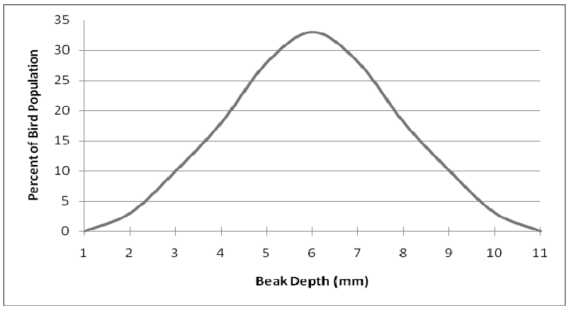
A. if the reproduction rate of the tree frog population remains constant over time

B. if the new allele for stripes is dominant or recessive in the tree frog population

C. if the new allele for stripes increases the survival of the tree frogs in their environment

D. if enough food and water is available in the rain forest canopy for the tree frog population

10. On a small isolated island, there is a single species of seed-eating birds. Individual birds are able to eat seeds that are within 2 mm (larger or smaller) of their beak depth. The distribution of individuals is shown in the figure below.



A long drought caused the plant species that produce seeds between 3–9 mm in size to go extinct. What does the Theory of Natural Selection predict will happen to the population of seed-eating birds over time?

A. It will permanently shrink to approximately 25% of its current size.

B. It will go extinct because there aren't enough seeds to support all of the individuals.

C. It will diverge into two species: one that eats small seeds and one that eats large seeds.

D. It will adapt and the birds that ate the medium sized seeds will learn to eat fish, insects, or other animals.

11. How is natural selection in the evolution of long necks in giraffes *best* explained?

A. Shorter-necked giraffes were killed by long-necked giraffes.

B. Giraffe necks grew longer because of the bone structure of the animals.

C. Giraffes with longer necks survived because they were better suited to the environment.

D. Long-necked giraffes mated only with other long-necked giraffes.

12. Which of the following explains why natural selection acts on the phenotype of an organism instead of its genotype?

A. Phenotypes directly influence the interaction of an organism with its environment.

B. Genotypes do not change except by the process of transcription.

C. Genotypes change in direct response to habitat changes.

D. Phenotypes can be inherited by offspring.

13. Which of the following is a source of genetic variation within a species?

A. cloning B. mutation

C. selective breeding D. natural selection

14. The diet of white-tailed deer consists primarily of shrubs. Sika are another species of deer that eat both grasses and shrubs. After an extended drought period, why might the sika population be favored over the white-tailed deer population?

A. Sika require less food than do the white-tailed deer.

B. Sika require more water than do the white-tailed deer.

C. Sika have more food sources than do the white-tailed deer.

D. Sika have fewer food sources than do the white-tailed deer.

15. Rainfall in a tropical region is below average for 10 consecutive years. Insect species adapted for dry conditions are much more plentiful at the end of the 10 years. Which of the following statements best explains the increase in the population of these insects?

A. Biodiversity in the region has increased due to the dry conditions.

B. Insects with a high tolerance for dry conditions have migrated out of the region.

C. Natural selection has favored insect species with a high tolerance for dry conditions.

D. Natural selection has selected against insect species that are adapted for dry conditions.

16. Which of these *best* illustrates natural selection?

A. An organism with favorable genetic variations will tend to survive and breed successfully.

B. A population monopolizes all of the resources in its habitat, forcing other species to migrate.

C. A community whose members work together utilizes all existing resources and migratory routes.

D. The largest organisms in a species receive the only breeding opportunities.

17. A species of finch has been studied on one of the geographically isolated Galapagos Islands for many years. Since the island is small, the lineage of every bird for several generations is known. This allows a family tree of each bird to be developed. Some family groups have survived and others have died out. The groups that survive *probably* have

A. interbred with other species.

B. inherited some advantageous variations.

C. found new places on the island to live.

D. been attacked by more predators.

18. A population of termites initially consists of darkly colored and brightly colored members. After several generations, the termite population consists almost entirely of darkly colored members because the brightly colored termites are easier for a predatory species of insectivores to locate. This situation is an example of

A. the evolution of a new species.

B. natural selection.

C. artificial selection.

D. adaptive radiation.

19. Earth has undergone some catastrophic changes from time to time. Which of these *most* likely explains why life on Earth continued following these catastrophes?

A. Dominant species had a slow mutation rate.

B. Many species filled the same niche.

C. A strong species had many different characteristics.

D. A wide diversity of species existed.

20. A small population of chimpanzees lives in a habitat that undergoes no changes for a long period. How will genetic drift probably affect this population?

A. It will accelerate the appearance of new traits.

B. It will promote the survival of chimpanzees with beneficial traits.

C. It will increase the number of alleles for specific traits.

D. It will reduce genetic diversity.

21. A small portion of a population that is geographically isolated from the rest of the population runs the risk of decreased

A. genetic drift.

B. mutation rate.

C. natural selection.

D. genetic variation.

22. A single species of squirrel evolved over time into two species, each on opposite sides of the Grand Canyon. This change was *most* likely due to

A. higher mutation rates on one side.

B. low genetic diversity in the initial population.

C. the isolation of the two groups.

D. differences in reproductive rates.

23. Fossil evidence suggests that a number of members of one fish species from an ancient lake in Death Valley, California, became several isolated species. Each of these new species lived in a different pond. Which of the following *best* explains the cause of this speciation?

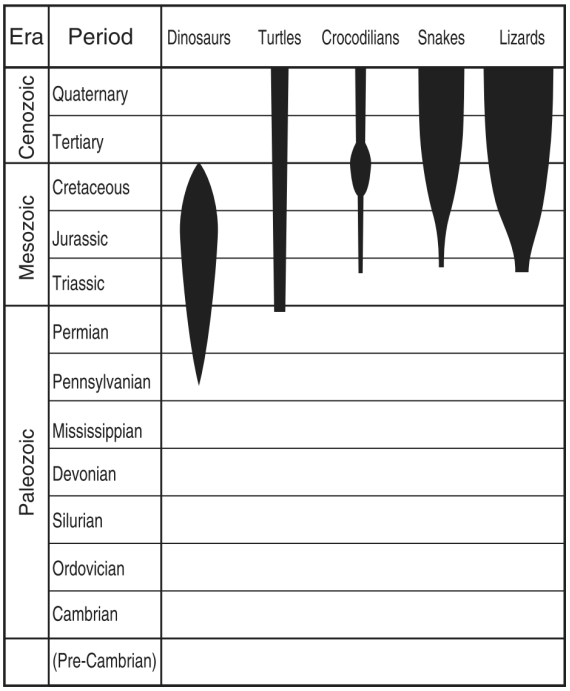
A. episodic isolation

B. temporal isolation

C. geographic isolation

D. behavioral isolation

24. Numbers of Representative Species



According to this information, which group demonstrated the greatest biodiversity during the Cretaceous period?

A. dinosaurs

B. crocodilians

C. snakes

D. lizards

25. Over time, new species have evolved while others have become extinct.

A male horse and a female donkey can be bred to produce an offspring known as a mule. This is possible because the two parents _____.

A. have adapted to similar environments

B. are domesticated mammals

C. are almost genetically identical

D. eat the same types of foods

26. Which of the following *most likely* supports how giraffes evolved long necks?

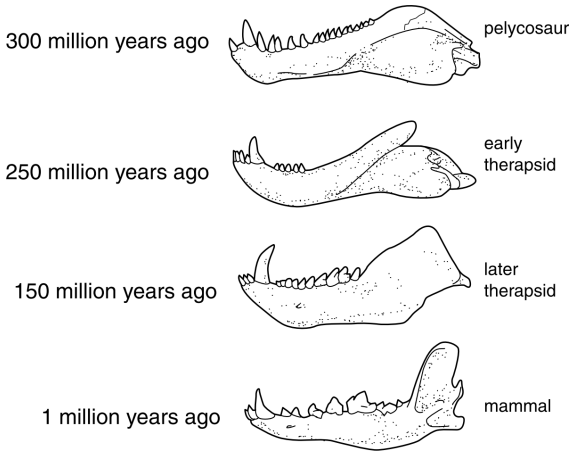
A. More long-necked giraffes survived to pass on their genes.

B. More short-necked giraffes survived to pass on their genes.

C. Short-necked giraffes modified their diets to evolve into a new species.

D. Short-necked giraffes grew longer necks to reach higher leaves.

27.



The fossilized jawbones in the diagram above show the changes in organisms over time. According to the diagrams, which of the following is a likely conclusion?

A. These fossils provide evidence that evolution occurs rapidly.

B. These fossils provide evidence that evolution occurs over long periods of time.

C. These fossils belonged to organisms that were large and slow moving.

D. These fossils lack similar characteristics in their structural design.

28. Water is necessary for life. During Connecticut winters, the ground freezes, making it difficult for trees to absorb water. How are Connecticut trees adapted to survive cold winters?

A. They use sap as a water source.

B. They reverse the photosynthetic process.

C. They drop their leaves and become dormant

D. The use the water produced during cellular respiration.

29. Vestigial structures, such as hip bones in whales and appendixes in humans, are those that have little or no function for the organism. What is the most likely reason for this loss of function over time?

A. The organism is undergoing speciation.

B. The organism is experiencing genetic drift.

C. The structure was over utilized by the organism.

D. The structure was not highly beneficial to the organism.

30. The arctic fox and gray wolf are two examples of animals that change the color of their fur with the seasons. In the summer, the animals are a brownish color, and in the winter, they turn white. The change of color helps the animals to survive.

Which of the following provides the *best* explanation for this change?

A. The color change helps protect them from predators.

B. The color change helps them raise their young.

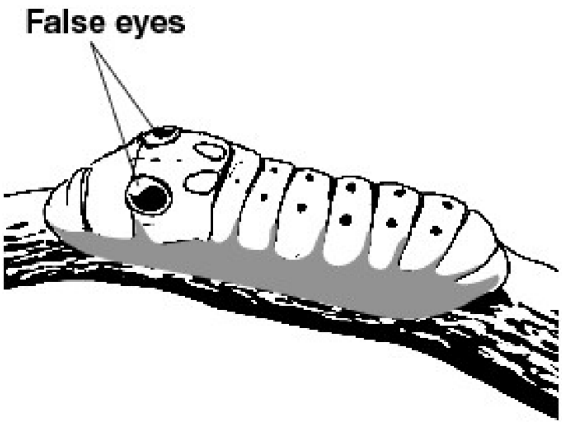
C. The color change helps them regulate their body temperature better.

D. The color change helps them be seen from a great distance.

31. The caterpillar has two large spots that look like large eyes as shown.

How do these large false eyes help the caterpillar survive?

Swallowtail Caterpillar



A. They allow the caterpillar to see farther than other insects.

B. They allow the caterpillar to scare away predators.

C. They allow the caterpillar to move around at night.

D. They allow the caterpillar to find more food.

32. The ptarmigan is a seed-eating Arctic bird that changes the color of its feathers with the change in seasons. In the summer it is a brownish color, and in the winter it is white.

Which of the following provides the *best* explanation for this change?

A. The color change helps it find food more easily.

B. The color change helps protect it from predators.

C. The color change helps it regulate its body temperature better,

D. Brown feathers are better than white ones for flying during mating season.

33. The Venus flytrap plant lives in soil with few nutrients. The plant absorbs nutrients by trapping insects inside its leaves.

The ability of the Venus flytrap to trap insects is an example of which of the following?

A. Adaptation

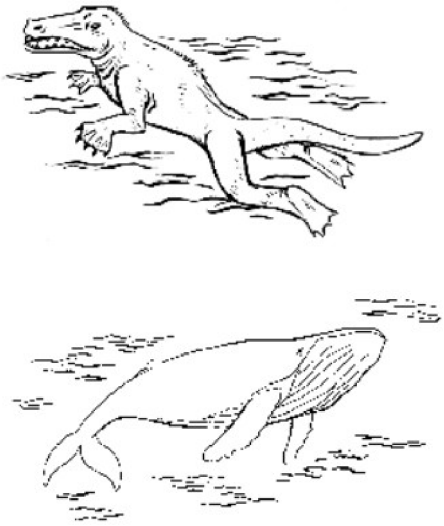
B. Parasitism

C. Cooperation

D. Competition

34. The picture shows a prehistoric mammal called *Ambulocetus*. This animal lived almost 50 million years ago in coastal waters. It used its back legs to swim in water and front legs to crawl on land. Scientists think that the whale evolved from the *Ambulocetus*.

What information should they use to support their hypothesis?



A. Extinction dates for the *Ambulocetus*

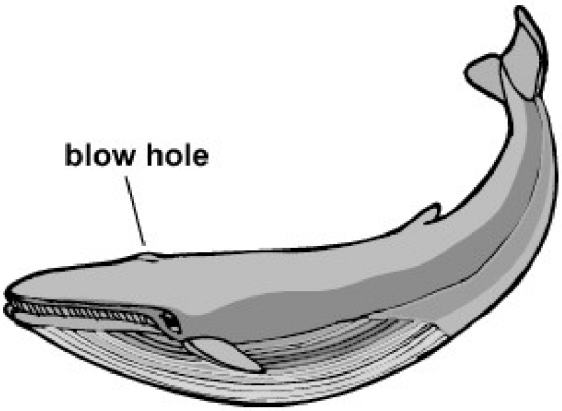
B. Evidence of the *Ambulocetus* diet

C. Comparison of the habitats of both animals.

D. Examination of the body structures of both animals.

35. Whales are mammals that live in the ocean. They have nostrils, called blow holes, positioned at the tops of their heads as shown. Fossil data indicate that whales evolved from a land mammal that had nostrils at the end of its snout. The fossils clearly show that over time, nostrils moved from the snout to the top of the head, as seen in modern whales.

Which statement explains why blow holes *most likely* provide an advantage for modern whales?



Whale

A. They allow them to take in air less often.

B. They allow them to inhale larger volumes of air.

C. They allow them to use less energy while breathing.

D. They allow them to breathe oxygen dissolved in the water.

36. When meiosis and fertilization occur, genes from both parents are combined, producing unique offspring.

How does this benefit a species?

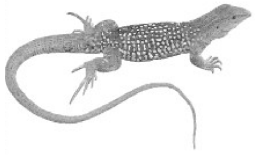
A. The production of more cells leads to faster population growth.

B. Greater genetic variation increases the chances for survival of a species.

C. The mixing of parent genes reduces the chance of mutation in a species.

D. The variation between individuals decreases competition for resources.

37. The Canyon spotted whiptail and the Sonoran spotted whiptail are lizard species that live in the same desert. The Canyon spotted whiptail is composed of males and females that reproduce sexually. The Sonoran spotted whiptail is an all-female species that reproduces asexually.



Canyon Spotted Whiptail

Sonoran Spotted Whiptail

Which lizard species is more likely to survive a drastic sudden change in climate?

A. Sonoran spotted whiptail because all members of the species can reproduce

B. The Sonoran spotted whiptail because their genetic similarities will keep the species stable

C. The Canyon spotted whiptail because their genetic differences improve their chances of adapting

D. The Canyon spotted whiptail because species with male and female members produce more offspring

38. In which population would reproducing **asexually** be *most* advantageous?

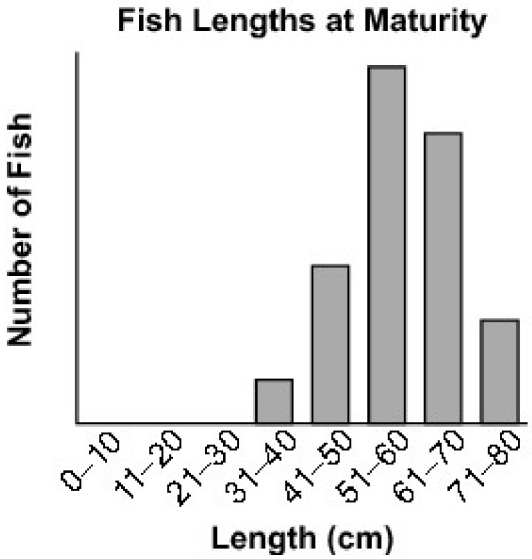
A. A population living in a changing environment

B. A population too large for the available resources

C. A population heavily hunted by many different types of predators

D. A population living successfully in stable environmental conditions

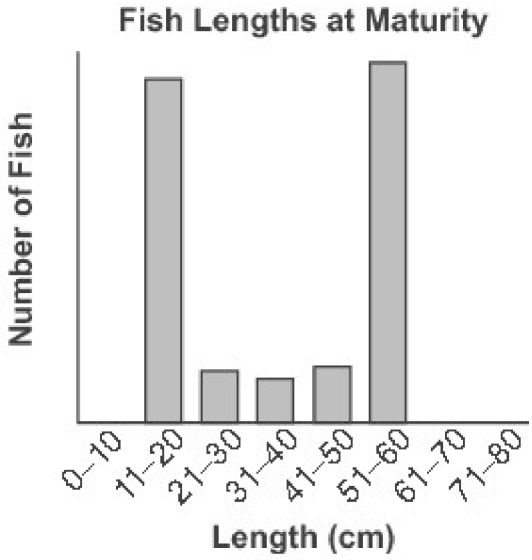
39.



The graph shows the length distribution at maturity for a population of fish. Policy makers are enacting regulations that will require releasing all fish that are under 60 centimeters (cm) long back into the water.

Which graph *best* predicts how the fish population will change after ten generations as a result of this regulation?

A.



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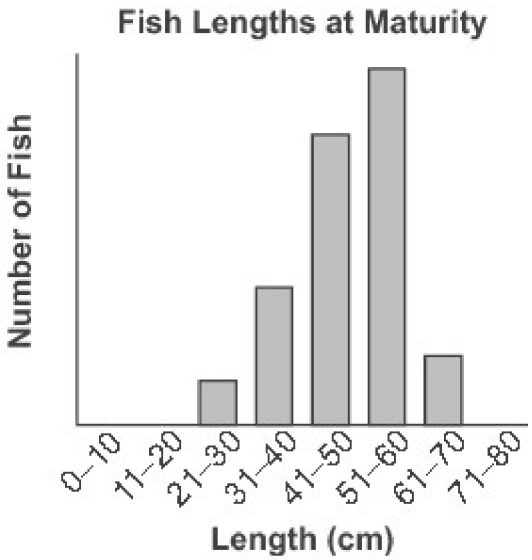

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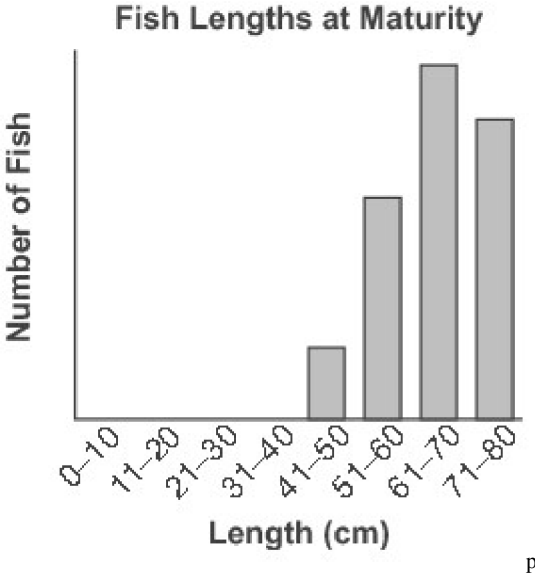

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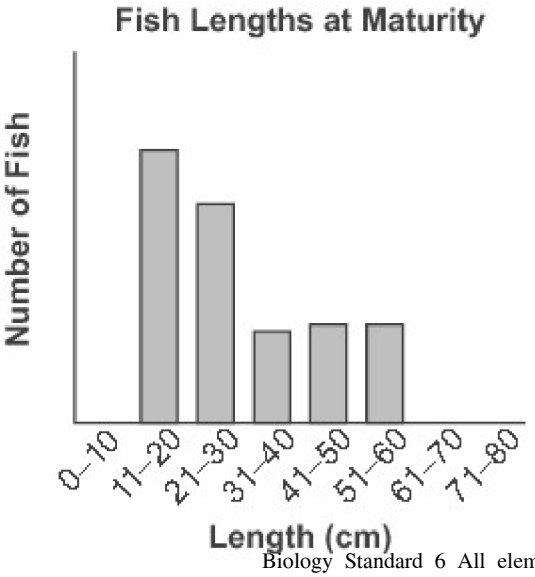
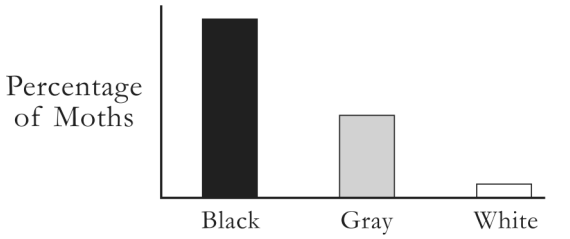


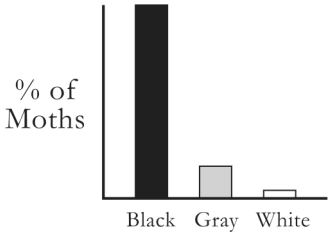
40. Students studying a moth population in the woods in Kentucky found the distribution of moth wing color shown in the graph below. The woods contained trees with bark that was mostly black.



Distribution of Moth Wing Color

Two years later a fungus attacked nearly all of the trees in the woods and the tree bark changed from black to patches of gray and white. Which graph shows the probable distribution of moth wing color within the next few years?

A.



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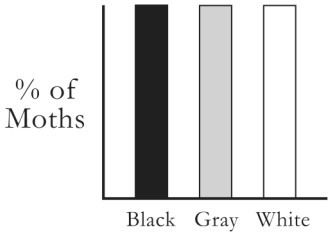

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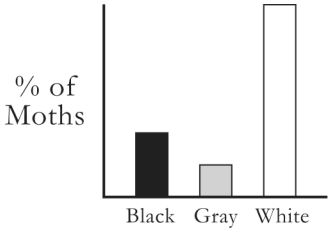

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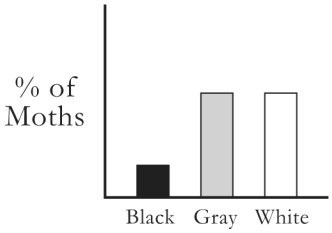


41. Over a long period of time, some flowering plants have become dependent on honeybees to fertilize their seeds. In recent years, a form of mite has infected and killed the honeybees in many areas of the country. Since this has happened, the once bee-dependent plants with the best chance of surviving are those that

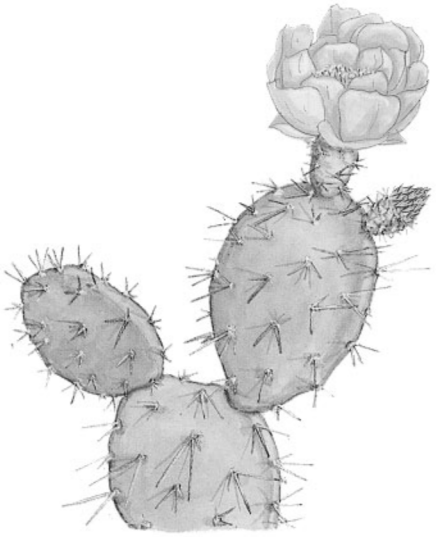
A. grow taller so that the few remaining honeybees will find them.

B. change their flowers so that wind will fertilize them.

C. have always attracted many other insects as well as honeybees.

D. have seeds that stay alive for a long time in the environment.

42. Use the picture below to answer the following question.



The cactus plant shown above lives in a desert environment.

Which characteristic of this plant could be found in many other desert plants?

A. a deep root system for gathering water

B. lush growth that serves to trap water if it rains

C. broad leaves that protect the plants from the hot sun

D. leaves and stems that are adapted to conserve water

43. Use the information below to answer the question that follows.

> Planarian worms swim away from sources of light. One explanation for this behavior is that in the dark their planarian bodies are hidden from predators.

Which statement is another scientifically reasonable explanation for the evolution of this behavior?

A. Light causes planarians' body temperature to decrease.

B. More carbon dioxide for the planarians is found in dark water.

C. The planarians' food generally is found in dark regions.

D. Light pushes on the planarians and turns them around.

44. Which adaptation prevents armadillos from being eaten by predators?

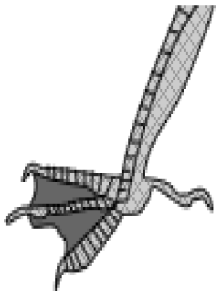
A. large wings

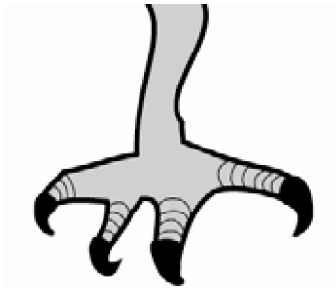
B. sharp curved claws

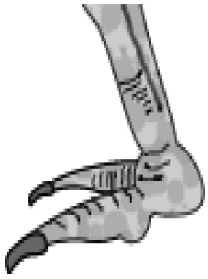
C. hard outer covering

D. long legs

45. Which foot would *most likely* help a bird live in water?

A. 

B. 

C. 

D. 

46. Which example describes a behavioral adaptation?

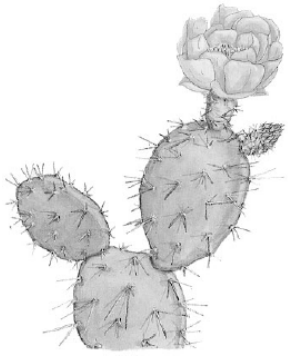
A. A bird builds its nest in the ash near a volcano.

B. A whale has the ability to hold its breath for 20 minutes.

C. A fox's hair is white in the winter and brown in the summer.

D. A monkey has long arms that allow it to swing from one branch to another.

47. Use the picture below to answer the question.



The cactus plant shown above lives in a desert environment.

Which characteristic of this plant could be found in many other desert plants?

A. a deep root system for gathering water

B. lush growth that serves to trap water if it rains

C. broad leaves that protect the plants from the hot sun

D. leaves and stems that are adapted to conserve water

48. A lizard species mostly eats fruit from one particular type of tree. If a virus kills most of these trees, which individual lizards will *most likely* survive?

A. lizards that can climb higher in the fruit trees

B. lizards that have darker coloration

C. lizards that can find other types of food

D. lizards that produce more offspring

49. Few flowers are able to grow on the northern arctic tundra. Those that do grow there have very short stems. How is this an adaptation to help them survive in the arctic climate?

A. It protects them from freezing.

B. It prevents them from being eaten by consumers.

C. It protects them from breaking in strong winds.

D. It makes it very hard for them to be pulled from the ground.

50. Female seals usually return to the same beaches year after year to give birth. If they are repeatedly disturbed by humans at those beaches, how will the seals *most likely* respond?

A. They will change color.

B. They will give birth to more pups.

C. They will hunt for food more often.

D. They will give birth at different beaches.

51. Tomato plants grow in warm weather. If the temperature drops below 32°F for two days in a row, what will *most likely* happen to the tomato plants?

A. They will die.

B. They will migrate.

C. They will hibernate.

D. They will grow faster.

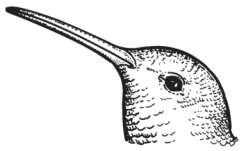
52. The picture below shows a flower with a long slender bloom.

The size and shape of a bird's beak are related to the type of food that the bird eats. Which of the following beaks is suitable for drinking nectar located deep within flowers such as the one shown above?

A. 

B. 

C. 

D. 

53. The picture below shows a bird.

From the shape of its beak and the length of its legs, this bird is best adapted for feeding on which of the following?

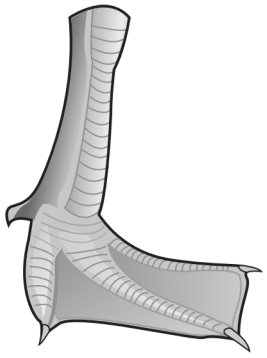
A. insects that feed on plants

B. small fish in shallow water

C. nuts from riverside trees and plants

D. birds in ground nests

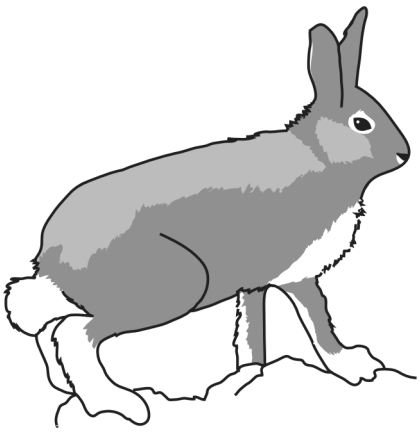
54. The picture below shows the foot of a certain species of bird.



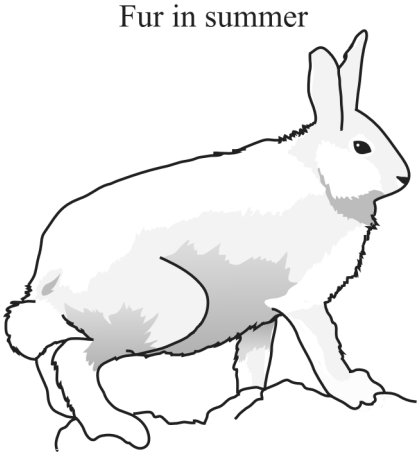
In which of the following environments is this species *best* adapted for survival?

A. desert
B. freshwater lake
C. meadow
D. tropical rain forest

55. The pictures below show the change in the fur of an arctic hare from summer to winter.



Fur in summer



Fur in winter

Which of the following statements *best* describes how this change helps arctic hares?

A. It lowers their body temperature.
B. It protects their eyes from sunlight.
C. It helps them move on slippery ice.
D. It makes them less visible to predators.

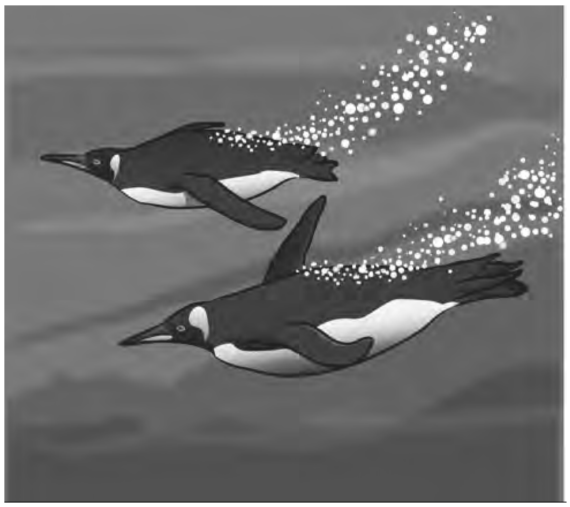
56. A tuna is an ocean fish that is well adapted to catching small, fast-moving prey. Which of the following adaptations *most* helps a tuna swim fast to catch its prey?

A. large fins
B. sharp teeth
C. small gills
D. tough scales

57. A morning glory is a type of flowering vine that climbs trees and fences. Which of the following behaviors *most* helps a morning glory plant climb a fence?

A. stems curling in response to touch
B. stems swelling in response to water
C. flowers opening in response to light
D. roots growing in response to gravity

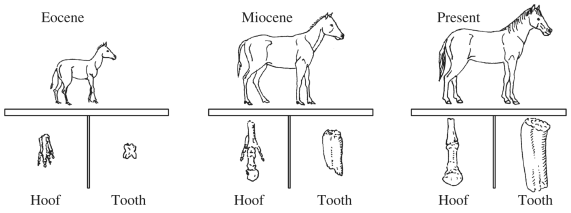
58. Emperor penguins are specialized birds that eat fish. Emperor penguins have developed many special characteristics that help them survive in the ocean environment. The picture below shows two emperor penguins swimming in the ocean.



Which of the following characteristics *most* helps the emperor penguins survive in an ocean environment?

A. having very little sense of smell
B. having a very weak sense of taste
C. having large feathers that absorb water
D. having small wings that move like flippers

59. The diagram below represents part of the horse fossil record from three time periods. It includes illustrations of the hooves and teeth of horses from each time period.



Which of the following statements is *best* supported by the horse fossil record?

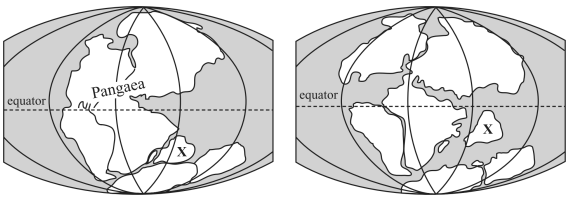
A. The horse has been a carnivore.

B. The horse has changed over time.

C. The horse has many common ancestors.

D. The horse has lived in the same ecosystem.

60. About 300 million years ago, the land of Earth was in a single mass known as Pangaea, as shown in Figure A. About 150 million years ago, Pangaea broke up into the land masses shown in Figure B.



300 million years ago
Figure A

150 million years ago
Figure B

Based on the diagrams, which of the following were *more likely* to survive on continent *X* after the breakup of Pangaea than before it broke apart?

A. organisms that lived in fresh water

B. organisms that required warm conditions

C. organisms that hibernated for long periods

D. organisms that traveled great distances during migrations

61. Comparing the skeletons of which of the following fish would *best* show the evolution of a fish species?

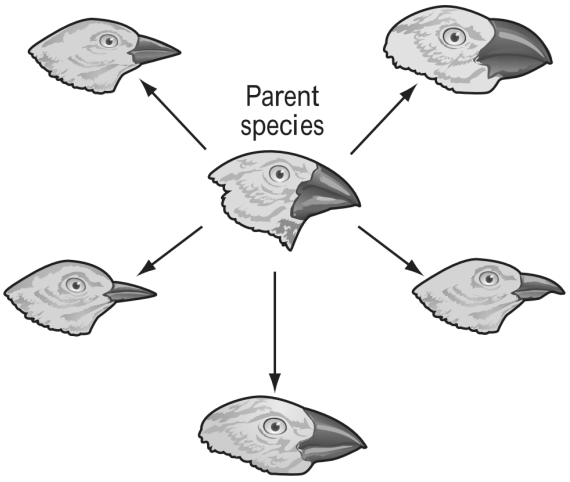
A. a male fish and a female fish that could produce offspring

B. the same fish just before it received a cut and after it healed

C. a fish that lived recently and a fish that lived a long time ago

D. the same fish just after it hatched and when it was full-grown

62. The diagram below shows the beaks of five species of birds that developed over time from one parent species. The five species of birds can be found living in the same area.



Which of the following *best* explains why the beak shape of each species of bird developed differently?

A. Each beak shape helps the birds to produce different songs.

B. Each beak shape is an adaptation to a specific source of food.

C. Each beak shape is designed to construct a different type of nest.

D. Each beak shape helps protect the birds from a different predator.

63. One of the most common types of adaptations in plants involves the shape and structure of each plant's leaves. The surface area of leaves is related to the amount of water a plant loses.

Based on this information, which of the following plants is probably *best* adapted for living in a hot, dry climate?

A.

B.

C.

D.

64. In comparisons of the evolutionary relationships between four species of birds, which of the following would be *most* useful?

A. color of feathers

B. gene sequences

C. nesting behaviors

D. patterns of migration

65. Along the Pacific coast of North America, there are at least seven subspecies of *Ensatina eschscholtzii* salamanders. All of them descended from a common ancestral population. As the species spread, subpopulations adapted to their local environments.

Which of the following *must* have increased as a result of these adaptations?

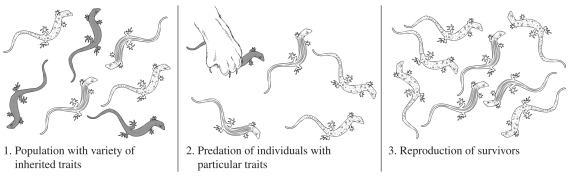
A. the number of chromosomes in each salamander

B. the size of each salamander in the total population

C. the biodiversity of the total salamander population

D. the number of offspring produced by each salamander

66. The diagrams below show changes in a desert lizard population.



Which biological concept is illustrated?

A. polygenic traits

B. natural selection

C. sex-linked inheritance

D. silent mutations

67. There are two types of modern whales: toothed whales and baleen whales. Baleen whales filter plankton from the water using baleen, plates made of fibrous proteins that grow from the roof of their mouths. The embryos of baleen whales have teeth in their upper jaws. As the embryos develop, the teeth are replaced with baleen.

Which of the following conclusions is *best* supported by this information?

A. Primitive whales had teeth as adults.

B. Toothed whales descended from baleen whales.

C. Baleen whales are evolving into toothed whales.

D. Descendants of modern baleen whales will have both teeth and baleen as adults.

68. Cheetahs have come close to extinction due to hunting, drought, and disease. There is now very little genetic variation in cheetah populations.

Which of the following is a result of the limited genetic variation in the current cheetah populations compared to earlier cheetah populations with more variation?

A. Cheetahs in current populations are more resistant to new diseases.

B. The survival rate of young cheetahs is increased in current populations.

C. Cheetahs in current populations are less able to interbreed with other species.

D. The current cheetah populations are less likely to be able to adapt to environmental changes.

69. The illustration below represents a marine iguana.

The marine iguanas of the Galápagos Islands feed on seaweed and algae. Marine iguanas have flattened tails while other species of iguanas that live inland on the Galápagos and on the South American mainland have rounded tails.

Which of the following *best* explains this difference in tail shape?

A. Flattened tails are better for swimming than rounded tails.

B. Flattened tails move more easily on land than in the ocean.

C. Flattened tails are harder for predators to grasp than rounded tails.

D. Flattened tails release heat more rapidly in the ocean than on land.

70. Starting in 1954, commercial fishers in the northwest Pacific were paid by weight, rather than by the individual fish, for pink salmon. The fishers increased the use of a type of net that selectively catches larger fish.

Which of the following effects did this change in fishing techniques *most likely* have on the salmon population over the next 20 years?

A. The average body size of the salmon population increased significantly.

B. The average body size of the salmon population decreased significantly.

C. The average body size of the males in the salmon population increased and the average body size of females in the salmon population stayed the same.

D. The average body size of the males in the salmon population stayed the same and the average body size of the females in the salmon population increased.

71. European rabbits were introduced to Australia in 1859. The rabbits reproduced rapidly in their new habitat, displaced other animals, and overgrazed vegetation. In an attempt to reduce the rabbit population, a virus was introduced in 1951. This virus is usually deadly to European rabbits.

When the virus was first introduced, the rabbits died in large numbers, but the death rate decreased over time. Which of the following *best* explains the decrease in the rabbit death rate?

A. Young rabbits learned to avoid being infected with this virus.

B. Natural selection favored rabbits that are resistant to this virus.

C. The lifespan of this virus is too short to affect rabbits over a long period of time.

D. The rabbits that were originally infected with this virus have been dead for many years.

72. In a mouse population inhabiting a grassland area, a mutation occurs that results in a new coat color allele.

Which of the following factors has the *greatest* effect on whether the new coat color will become more common in the mouse population?

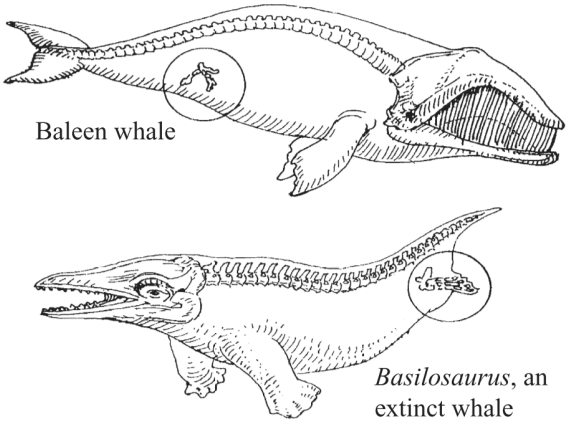
A. whether abundant food is available in the grassland

B. whether the new coat color allele is dominant or recessive

C. whether the rate of reproduction in the mouse population is stable

D. whether the new coat color allele increases the survival of mice in their environment

73. The illustrations below show vestigial pelvic bones of a baleen whale and vestigial hind limb bones of an extinct whale.



The presence of these bones in the baleen whale and extinct whale provides evidence of which of the following?

A. Whales can travel on land when necessary.

B. Whales evolved from four-legged animals.

C. Whales have functional legs that are hidden by fat and skin.

D. Whales are developing into animals with four functioning limbs.

74. Some willow trees alter the chemical composition of their leaves when attacked by caterpillars. Compared to normal leaves, the chemically altered leaves are less nutritious and are more difficult for caterpillars to digest.

Which of the following is a likely effect of this ability to alter leaf composition?

A. Willow trees with this ability will attract more caterpillars than other willow trees.

B. Willow trees with this ability will have a survival advantage over other willow trees.

C. More butterflies will lay their eggs on willow trees with this ability than on other willow trees.

D. Caterpillars that feed on willow trees with this ability will be larger than caterpillars on other willow trees.

75. Dutch elm disease is a fungal infection of elm trees that usually results in death. The disease has killed millions of North American elm trees that were not resistant to the fungus. Scientists have bred resistant elms by crossing North American species with Asian species that show resistance.

Which of the following *best* describes how natural selection would promote resistant elm populations once the resistance genes from the Asian species were successfully introduced?

A. After encountering elms with resistance genes, fungi would avoid elms and begin to attack other tree species.

B. Resistance would spread to all of the mature elms in a population from the few trees that acquired the resistance genes.

C. By reproducing with each other, elm trees with resistance genes would create super-resistant elms with twice the number of resistance genes.

D. Elm trees with resistance genes would survive and pass on resistance to offspring, while trees without resistance would more likely be killed by the fungus.

76. Which of the following *best* explains how the fossil record provides evidence that evolution has occurred?

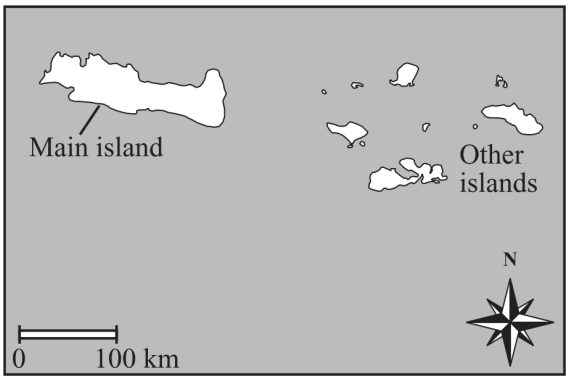
A. It indicates that forms of life existed on Earth at least 3.5 billion years ago.

B. It indicates the exact cause of structural and behavioral adaptations of organisms.

C. It shows how the embryos of many different vertebrate species are very similar.

D. It shows that the form and structure of groups of organisms have changed over time.

77. On island chains like the one shown below, animal populations that spread from the main island to the other islands can evolve into separate species.



Which of the following *best* explains what favors speciation in these situations?

A. Predators on the main island can easily migrate to follow the populations to the other islands.

B. Lack of disease on the other islands enables the populations to grow and change without limit.

C. The physical separation of the islands limits gene flow and interbreeding between the populations.

D. The climatic conditions of the islands allow the populations to breed all year and produce several generations.

78. The outermost tail feather of the male barn swallow is longer than that of the female barn swallow. The long tail feather helps the males attract females, but it also requires the males to use extra energy to fly.

The long tail feather trait is maintained in the barn swallow populations because, compared to males with a shorter tail feather, males with a longer tail feather are more likely to

A. build a large nest.

B. produce offspring.

C. migrate each winter.

D. escape from predators.

79. On the Galápagos Islands, finches adapted over time to different food sources through changes in their beak structure.

Which of the following *most likely* resulted from the finches' beak structure adaptations?

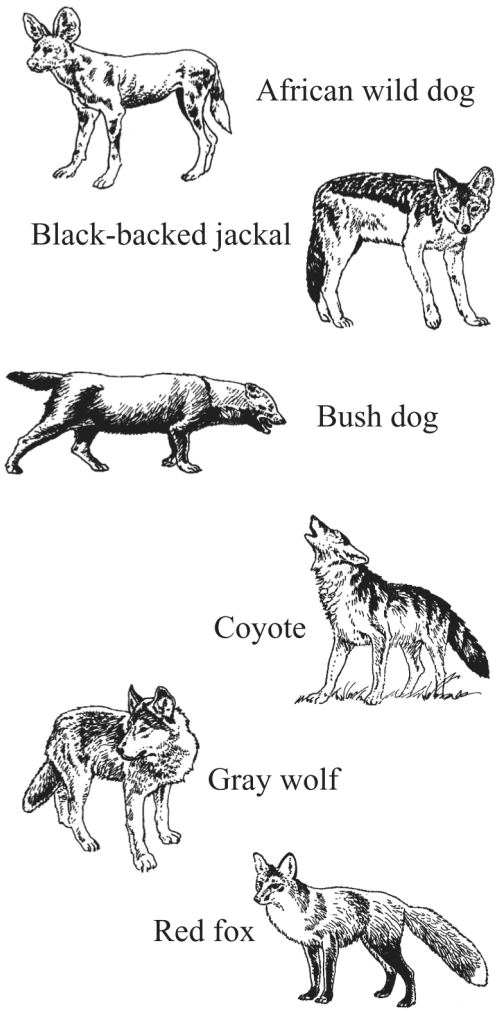
A. a decreased predation on finches

B. an increased species diversity of finches

C. an increased competition among finches

D. a decreased reproductive rate in finches

80. The illustration below shows several wild canine species that descended from a common canine ancestor.



As a result of natural selection, canine biodiversity increased as all of these species developed from a common ancestor. Which of the following factors contributed *most* to the evolution of these diverse canine species?

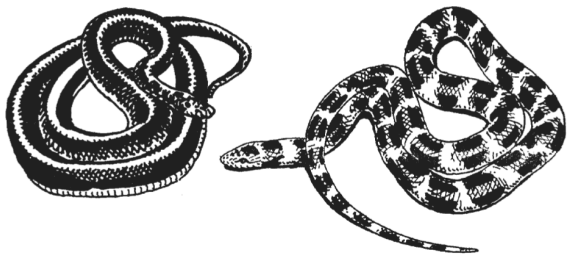
A. differences in environment

B. selective breeding programs

C. inheritance of learned behaviors

D. interbreeding with unrelated species

81. The illustration below shows two snakes of the same species that have different striping.



Lengthwise stripes | Crosswise stripes

California king snakes may exhibit different patterns of stripes. According to evolution by natural selection, which of the following is the *most likely* result if a snake-eating predator can more easily detect the snakes with the crosswise stripes?

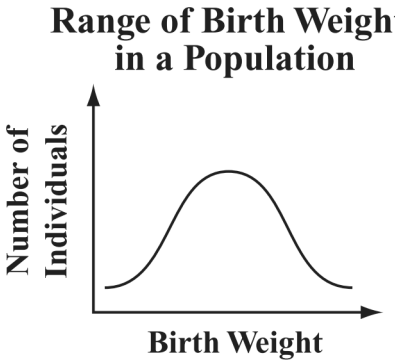
A. The percentages of snakes born of each type will not change.

B. Snakes with lengthwise stripes will become more common.

C. Snakes with crosswise stripes will learn to move faster.

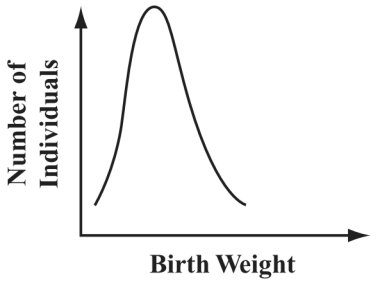
D. A new type of king snake with no stripes will emerge.

82. The graph below represents the range of birth weights for offspring in a mammal population.

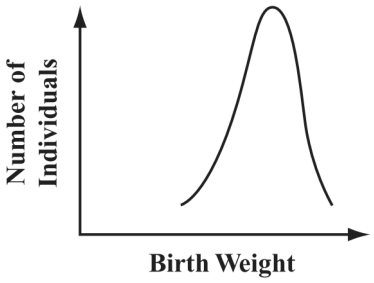


As is typical in many mammal populations, offspring with an average weight at birth have a higher survival rate than offspring with a very low or very high birth weight. Based on this information, which of the following graphs is the *best* prediction of what will happen to the range of birth weights in this population over time?

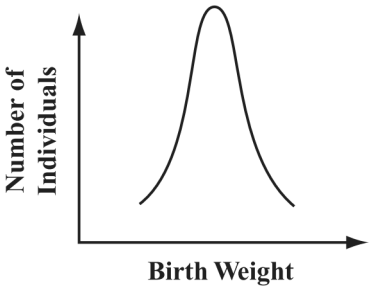
A.



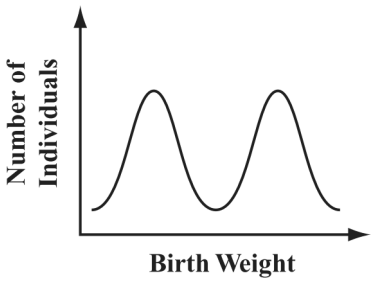
B.



C.



D.



83. Major natural events, such as volcanic eruptions, significantly change the environmental conditions of the areas where the events occur. What happens to local populations that are unable to adapt to the new conditions or to move to other areas?

A. They become extinct.

B. They undergo rapid mutations.

C. They develop a scavenger lifestyle until conditions change.

D. They interbreed with the populations of other species that have remained there.

84. Evolution can be seen in the fossil record in which of the following ways?

A. Organisms in the fossil record are identical to living organisms.

B. Individual species disappear and reappear in the fossil record over time.

C. The fossil record provides evidence that organisms have changed over time.

D. The fossil record provides evidence that all organisms developed at the same time.

85. A mutation in an allele in an individual newt gave that newt faster reflexes. It is found that, after many generations, most of the newt population has the new allele.

Which of the following *most likely* caused this change?

A. The newt gave its mutated allele to other adult newts.

B. Other newts learned to copy the strategies of the mutated newt.

C. The same mutation occurred in other newts as a result of environmental conditions.

D. Newts with the mutation are better able to survive and reproduce than newts without the mutation.

86. Some male guppies show variation in their scale pattern. Male guppies can have a dull color that blends with the sand on streambeds, or they can have large spots that are highly visible.

A researcher is studying a sandy portion of a particular stream where most of the male guppies have large spots. A predatory fish species invades the area. The predatory fish find the guppies primarily by sight.

Over time, which of the following is the *most likely* effect of the predators on the male guppies' scale pattern?

A. Most of the males will have large spots.

B. Most of the males will have a dull color.

C. Half of the males will have large spots and half of the males will have a dull color.

D. Half of the males will have even larger spots and half of the males will have smaller spots.

87. There are about 136 species of fireflies. Each species produces a different pattern of flashing light.

Which of the following statements *best* explains how the different light signals help maintain separate firefly species?

A. The light signals are flashed only during mating season.

B. A male responds only to the light signals of females of his own species.

C. The light signals change in pulse duration or frequency every few years.

D. A male uses his light signal to repel all other males of the same and other species.

88. According to plate tectonic theory, Australia was a part of the supercontinent Pangea. Millions of years ago Pangea divided, and eventually Australia was separated as its own continent.

Which of the following is *most likely* a result of the isolation of the Australian continent for millions of years?

A. Australia has no fossil record of species evolution.

B. Australia has a large number of species that are not found anywhere else.

C. Plant populations in Australia have all evolved to be self-pollinating to maximize their chance for reproduction.

D. Animal populations in Australia have little genetic diversity and are less likely to survive environmental changes.

89. Which of the following examples *best* illustrates the process of evolution by natural selection?

A. A person with asthma has trouble breathing.

B. A group of species has common DNA sequences.

C. A man and a woman have 10 children over the course of their lifetime.

D. A population becomes immune to a lethal disease over many generations.

90. About 70 years ago, cane toads were introduced to Australia. The toads are toxic to some species of snakes, such as *Dendrelaphis punctulatus*. The longer an individual snake is, the greater its chance of survival after eating a cane toad.

Which of the following did scientists *most likely* observe in the *D. punctulatus* snake population as a result of the presence of the cane toads?

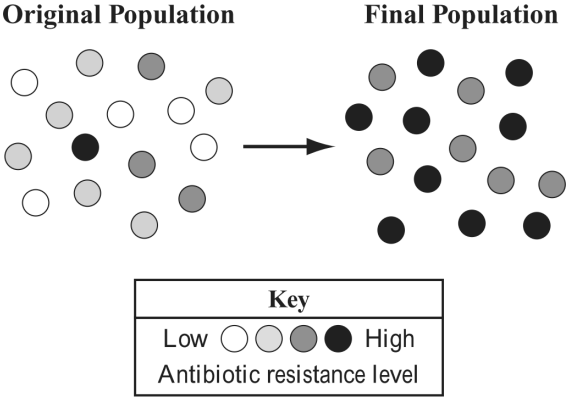
A. The entire population was killed by the toads.

B. The entire population became resistant to the toads.

C. The average body length in the population increased.

D. The average body length in the population decreased.

91. Antibiotic resistance can vary within a population of bacteria. The diagram below represents the changes in a population of bacteria as a result of exposure to an antibiotic over time.



The changes in the population are *most likely* the result of which of the following?

A. exponential growth
B. genetic crosses
C. immigration
D. natural selection

92. The fossil record supports which of the following descriptions of the evolution of life on Earth?

A. Life first appeared with the diversity found today.
B. The importance of natural selection diminished over time.
C. Complex organisms evolved from more simple organisms.
D. Large organisms appeared before single-celled organisms.

93. Which of the following statements gives the *most likely* explanation for the presence of two very similar species of squirrels living on opposite sides of the Grand Canyon?

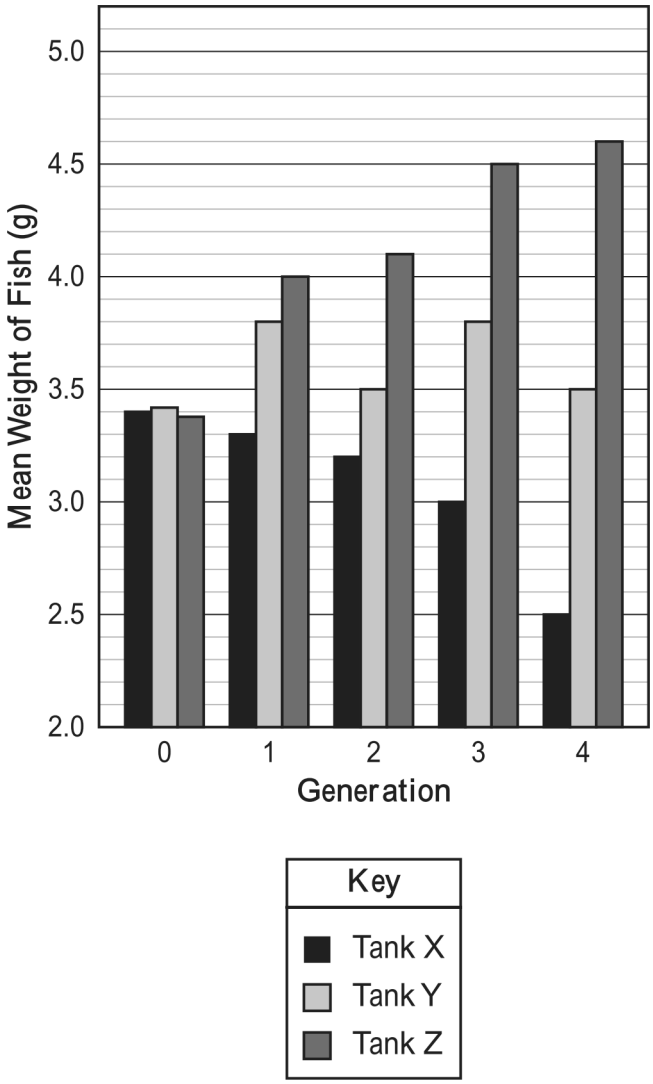
A. One squirrel traveled across the canyon and started a new population on the other side.
B. One squirrel traveled across the canyon and interbred with a different population on the other side.
C. Members of a single squirrel species were geographically separated by the formation of the canyon.
D. Members of two different squirrel species migrated from two different places to opposite sides of the canyon.

94. The Asian shore crab invaded parts of the eastern coast of the United States about 15 years ago. The Asian shore crab preys on blue mussels. In the time since the Asian shore crab arrived, the average shell thickness has increased in the blue mussel population.

Which of the following is the *most likely* reason that this increase in shell thickness has occurred?

A. Blue mussels with thick shells attract more crabs than mussels without thick shells.
B. Blue mussels with thick shells grow in larger colonies than mussels without thick shells.
C. Blue mussels with thick shells catch more food per day than mussels without thick shells.
D. Blue mussels with thick shells survive and reproduce more successfully than mussels without thick shells.

95. To investigate selective pressures on fish populations, researchers set up three identical tanks, labeled X, Y, and Z. Each tank contained 1000 fish of the same species. Before the fish reproduced each generation, the researchers removed fish from some of the tanks. The graph below shows the changes in the mean weight of the fish in each tank over four generations.



Based on the graph, what did the researchers *most likely* do to tank Z each generation?

A. The researchers removed the 900 smallest fish.

B. The researchers removed the 900 largest fish.

C. The researchers removed 900 fish at random.

D. The researchers removed none of the fish.

96. In a population of moths, wing color became darker over time. Which of the following is the *best* evidence that the change in wing color was an evolutionary change?

A. The size of the moth population changed.

B. The average length of the moths' dark wings increased.

C. The number of eggs that females laid during each breeding season increased.

D. The frequencies of the alleles for dark wing color in the moth population changed.

97. In the deserts of the southwestern United States, rock formations made from lava flows are found scattered across the sand. The rock pocket mouse, which has dark fur, lives on the black lava rocks. The Apache pocket mouse, which has light fur, lives on the tan sand.

Which of the following statements *best* explains how these two types of mice could have evolved from a common ancestor?

A. Individual mice changed their fur color to escape their predators.

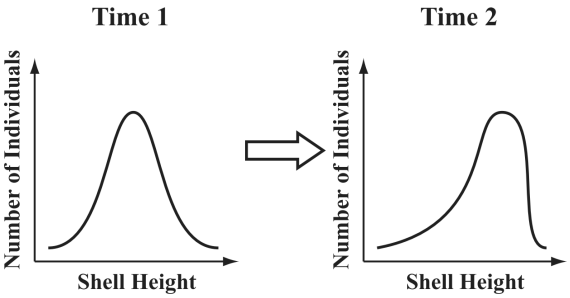
B. Natural selection favored different fur colors in the different habitats.

C. The emigration of mice changed the gene pools in the original population.

D. The original population of mice spread out geographically to relieve overcrowding.

98. The shape and height of a tortoise's shell influence how high the tortoise can raise its head. A tortoise with a high shell that leaves a large gap can raise its head higher than a tortoise with a lower shell and a smaller gap.

In a population of herbivorous tortoises, a shift in the frequency of different shell heights is observed over time. A set of graphs representing the change in frequency of the different shell heights is shown below.



Which of the following selection pressures *most likely* produced the shift in frequency?

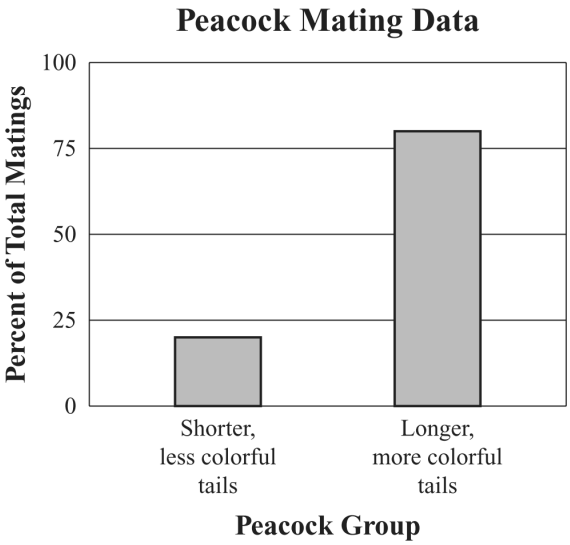
A. lack of vegetation at ground level

B. dry, hot weather conditions for several years

C. habitat changes that forced nesting sites farther inland

D. intense competition with other species of tortoises with high shells

99. Male peafowl, called peacocks, have long, colorful tail feathers. Among peacocks there is variation in the size, brightness, and pattern of the tail. Scientists observed the mating success of two groups of peacocks. The graph below shows the scientists' data.



a) Explain what the data show about the advantage of longer, more colorful tails for peacocks.

b) Identify *one* disadvantage that longer, more colorful tails have for peacocks.

c) Explain in detail how the longer, more colorful tails evolved in peacocks despite causing disadvantages for the males.

100. Which of the following is a reason loggerhead turtles bury their eggs in holes that they dig on the beach?

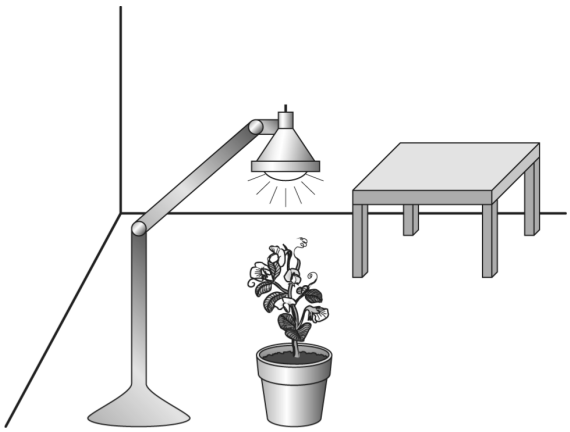
A. to keep the eggs covered with water

B. to provide the eggs with nutrients

C. to hide the eggs from predators

D. to protect the eggs from sand

101. The picture below shows a plant growing in a closed room under a single light.



The plant is moved to the table in the back of the room and the light remains in the same place. Which of the following will change the *most*?

A. the direction the plant grows

B. the nutrients the plant needs

C. the shape of the plant's leaves

D. the color of the plant's flowers

102. In some locations, squirrels sleep for long periods of time during the winter months. Which of the following *most likely* causes these squirrels to sleep for long periods of time?

A. increase in humidity

B. decrease in temperature

C. clouds forming in the sky

D. winds blowing in the night

103. Some types of bacteria can only live where oxygen is *not* present. These bacteria were well adapted to life on Earth over 2 billion years ago.

Which of the following changes caused many of these bacteria to become extinct?

A. the slow movement of tectonic plates

B. the varying temperatures of each season

C. an increase in volcanic activity under the oceans

D. an increase in the number of photosynthetic organisms

104. At one time, all the continents on Earth were joined in a supercontinent called Pangaea. Over time Pangaea split into separate continents.

Which of the following statements describes a result of this split?

A. All fossil evidence of species from Pangaea was lost.

B. Organisms on the separated continents no longer migrated for breeding.

C. Ancestral organisms evolved into different species on the separated continents.

D. Evolution in species proceeded more slowly on the separate continents than it had on Pangaea.

105. Spruce budworms are a type of moth. For every 100 budworm eggs, only about 1% reach adulthood. The table below shows the average number of budworms that survive and the main cause of death at each life cycle stage prior to the adult stage.

Stage in Life Cycle	**Average Number Alive at Start of Stage**	**Main Cause of Death during Stage**
egg	100	parasite
early larva	85	dispersal to unsuitable habitat
late larva	17	parasite, disease
pupa	2	parasite
adult	1	

Based on the data in the table, which of the following changes would *most* improve the percentage of budworms surviving to adulthood?

A. a thinner cocoon wall in the pupal stage

B. a slower rate of development in the late larval stage

C. a decrease in exposure to disease in the pupal stage

D. an increase in resistance to parasites during the egg stage

106. Which of the following is the *best* example of natural selection?

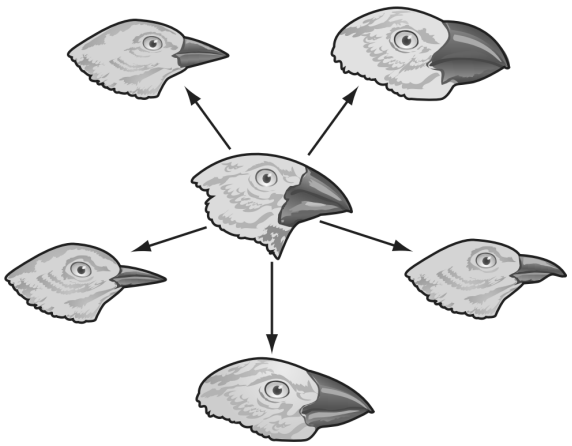
A. The lifespan of a chimpanzee is extended to 60 years in captivity.

B. The population size of giraffes changes over time as a result of immigration.

C. The bone density of a human increases significantly as a result of participation in sports.

D. The average toxin level in a poisonous frog population increases over time in response to high predation.

107. The diagram below shows many finch species that originated from a single ancestral finch species in the Galapagos Islands.



Which of the following statements best explains why many different finch species originated from the single ancestral species?

A. Populations adapted to environmental pressures.

B. Recessive traits in populations were eliminated over time.

C. Individuals acquired unique characteristics during their lifetimes.

D. Random mutation caused some individuals to have harmful traits.

108. The smooth-skinned, leaf-tailed gecko lives on Madagascar, an island off the coast of Africa. The gecko hunts at night and sleeps on trees by day. The color and pattern of the gecko's body resembles leaves.

Which of the following statements *best* explains how the gecko's unique body color and pattern evolved?

A. All the geckos needed to look like leaves in order to live in trees and therefore acquired the necessary trait.

B. Individuals with bodies that looked the most like leaves interbred only with other green or brown lizard species.

C. Gene sequences of all the geckos mutated to produce the leaf appearance when ancestral geckos moved from mud to trees.

D. Individuals with bodies that looked the most like leaves were better able than other individuals to avoid predators and passed on the trait.

109. Some areas of a forest contain rich soil, while in other areas the soil is poor. Plants of a certain species grow taller in the rich soil than in the poor soil. The taller plants receive more sunlight and are able to produce more offspring than the shorter plants. If these offspring grow in rich soil, they are tall, but if they grow in poor soil, they are short.

Which of the following statements explains why this situation is *not* an example of evolution by natural selection?

A. The observed differences in plant height are not due to genetics.

B. The differences in soil conditions do not affect all plants equally.

C. The short plants and tall plants are not isolated enough from each other.

D. The short plants are not accumulating gene mutations as quickly as the tall plants.

110. Over time, a type of plant called Darwin's orchid has evolved a long, 28 cm nectar tube on its flowers. A particular species of moth pollinates the Darwin's orchid.

Which of the following evolutionary changes was *most likely* favored in the moth because of its relationship with the Darwin's orchid?

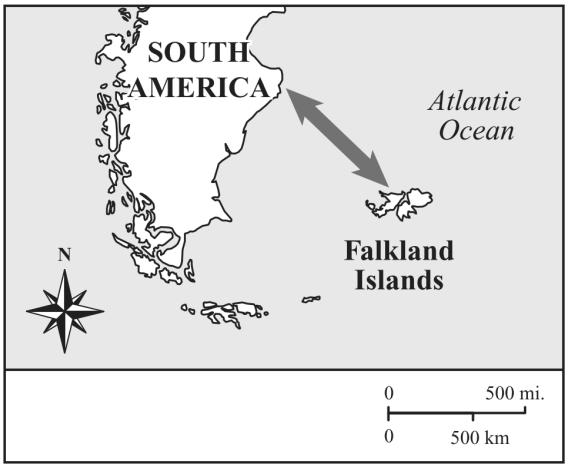
A. faster flying speeds in the moths

B. larger average size of the moths' eyes

C. longer average length of the moths' tongues

D. more elaborate mating behaviors in the moths

111. The arrows on the map below show the migration cycle of penguins that live near the southern tip of South America. The penguins complete this migration cycle once each year.



The migration of these penguins is in response to which of the following environmental conditions?

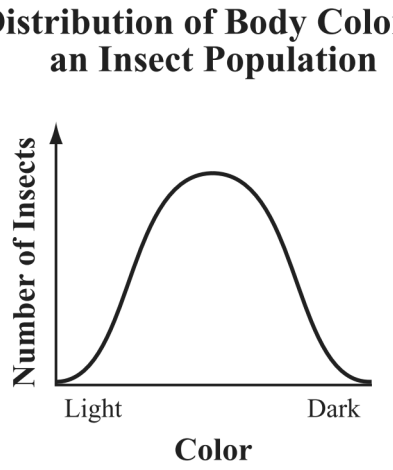
A. change in temperature

B. long period of drought

C. decrease in ocean level

D. increase in earthquakes

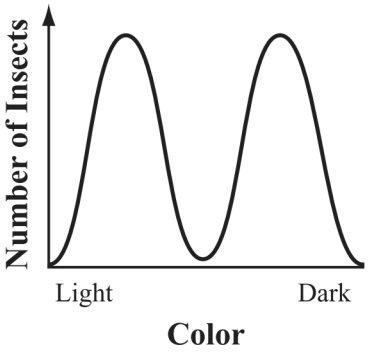
112. Insects that are camouflaged in their environment are less likely to be eaten by birds. The graph below shows the distribution of body color in a population of an insect species.



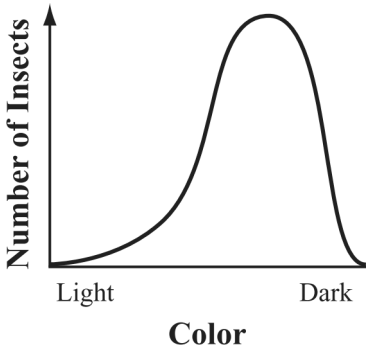
The insects live on trees. A black fungus begins to grow on the trees where the insects live.

Which of the following graphs shows the *most likely* distribution of body color in the insect population after several years of fungus growth?

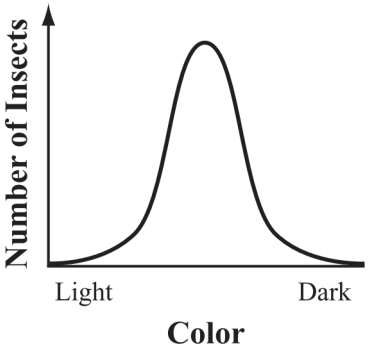
A.



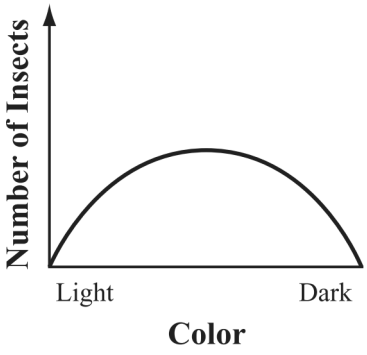
B.



C.



D.



113. In the early 1900s, California citrus growers sprayed their trees with cyanide gas to kill scale insects. By 1914, some scale insects were surviving the spraying, and eventually the whole population showed resistance to cyanide.

Which of the following statements *best* explains how resistance to cyanide spread in the scale insect population?

A. Insects with a resistance gene survived the first cyanide sprayings and passed the gene to their offspring.

B. Insects without a resistance gene underwent mutation upon contact with the cyanide to acquire resistance.

C. Predators put greater selection pressure on insects with a resistance gene than on insects without a resistance gene.

D. Parasites infecting the insect population carried the trait from insects with a resistance gene to insects without a resistance gene.

114. A group of mammals migrates away from the general population to a new habitat. Under which of the following conditions will this group *most likely* develop into a separate species?

A. The new habitat is geographically close to the old habitat.

B. The group returns to the general population each mating season.

C. The ratio of males to females in the group is different than in the general population.

D. The new habitat has conditions that differ significantly from those in the old habitat.

115. Some lizards have an adaptation that allows their tails to break off with minimal damage to bones, nerves, blood vessels, and muscles. This type of lizard can then regrow the missing portion of the tail.

Which of the following statements *best* explains why this adaptation is selected for in lizard populations?

A. Lizards with this adaptation are better at climbing trees.

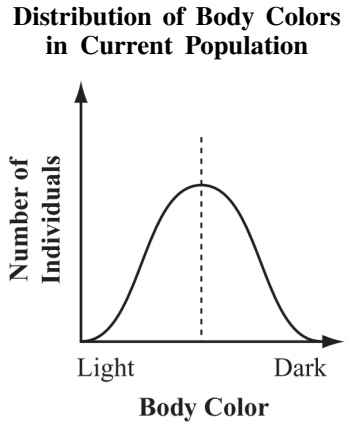
B. Lizards with this adaptation are more likely to escape from predators.

C. Lizards with this adaptation can use their tails as lures to attract more food.

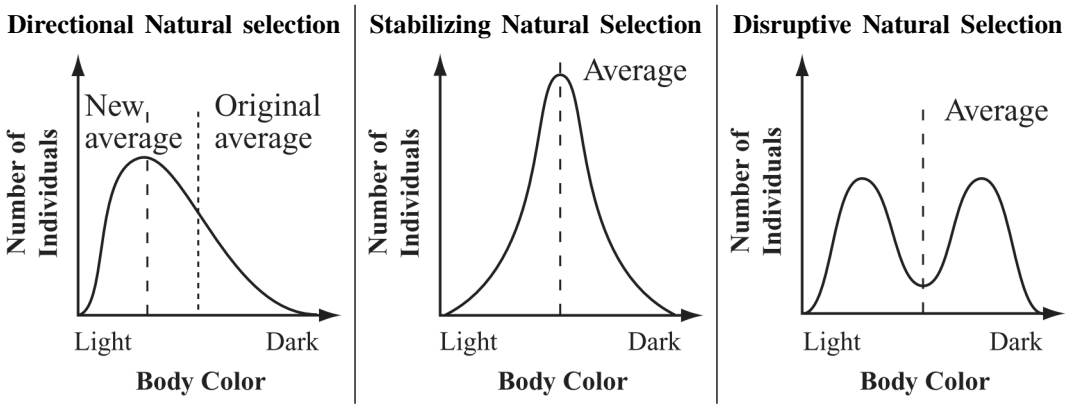
D. Lizards with this adaptation can camouflage themselves more easily in vegetation.

The following section focuses on how natural selection could affect body colors of beetles in a population.

In a population of beetles, the body colors of individual beetles range from light to dark. The graph below shows the distribution of body colors in the current population.



In the future, the distribution of body colors in the beetle population could change in different ways as a result of natural selection, as shown in the graphs below.



In the directional natural selection graph, the curve shifts in the direction of the favored phenotype. This particular graph shows light body color being favored, but, depending on environmental conditions, dark body color might be favored.

In the stabilizing natural selection graph, the curve narrows to show the average phenotype is favored.

In the disruptive natural selection graph, the curve has two peaks to show the phenotypes at both ends of the graph are favored.

116. A species of ivy invades the beetles' current habitat and becomes the dominant form of vegetation. The color of the ivy's leaves is similar to the beetles' average color.

Considering selective pressure on the beetles from predatory birds, which type of natural selection will *most likely* occur in this situation?

A. disruptive

B. stabilizing

C. directional toward dark body color

D. directional toward light body color

117. Which of the following situations will *most likely* lead to disruptive natural selection?

A. the introduction of a competing insect species that has a light body color

B. the preference of female beetles to mate with only dark-colored male beetles

C. the outbreak of plant diseases that either produce dark spots on leaves or cause leaves to lose their color

D. the removal of almost all the vegetation from the habitat, exposing the light-colored soil underneath the vegetation

118. The current distribution for beetle body size is similar to the current distribution for body color. A bird population that preys on beetles arrives in the area. The birds have small beaks and therefore can eat only small beetles.

Which type of natural selection will *most likely* occur in this situation?

A. disruptive

B. stabilizing

C. directional toward large body size

D. directional toward small body size

119. Suppose a fire burns through the beetles' habitat, leaving the trees, soil, and some rocks charred black for several years. Most of the beetles and their predators survive the fire and continue to live in the habitat.

a) Identify which beetle phenotype or phenotypes will most likely be favored in the habitat after the fire. Explain your answer.

b) Identify the type of natural selection (directional, stabilizing, or disruptive) that will most likely act on the beetle population.

The type of natural selection you identified will change the phenotype distribution in the beetle population.

c) Using your knowledge of natural selection, explain how the change in phenotype distribution will occur.

120. Two groups of organisms are found living on opposite sides of an island. An active volcano prevents each group from traveling to the opposite side of the island. Scientists want to know if these two groups of organisms belong to the same species.

The answer to which of the following questions would *most* help scientists determine whether the two groups belong to the same species?

A. Do the two groups eat the same kinds of food?

B. Are the two groups active at the same times each day?

C. Can the two groups interbreed to produce fertile offspring?

D. Do the two groups use similar anatomical structures for the same purpose?

121. Turtles are classified in the order Testudines. Some turtles are aquatic and others are terrestrial. Aquatic turtles have webbed feet and short claws, but terrestrial turtles do not.

Which of the following statements *best* explains why aquatic turtles and terrestrial turtles are classified in the same order but have such different feet?

A. Aquatic turtles evolved from fish, and terrestrial turtles evolved from reptiles.

B. Aquatic turtles and terrestrial turtles have similar body plans, but they grow at different rates.

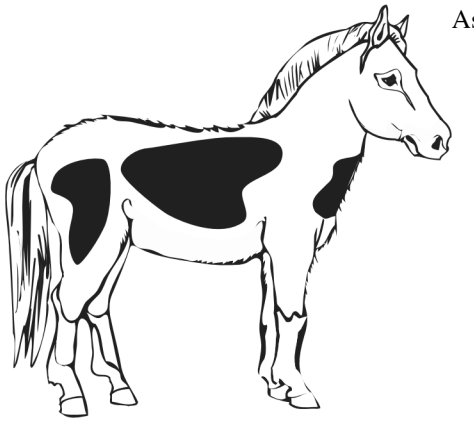
C. Aquatic turtles interbred with different species, and terrestrial turtles bred only within their own species.

D. Aquatic turtles and terrestrial turtles evolved from a common ancestor, but they have adapted to different environments.

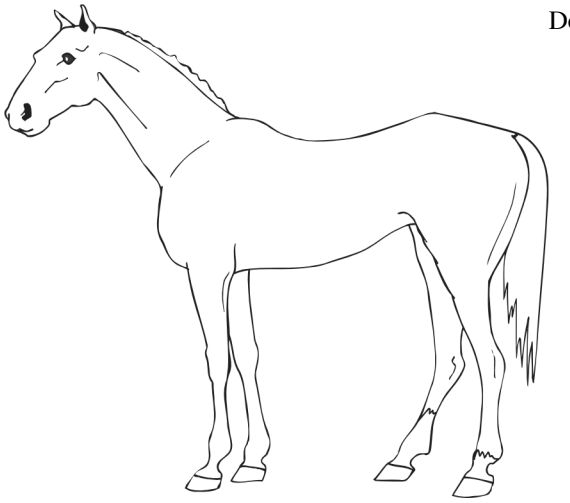
122. Use the information and pictures below to answer the following question(s).

Wild ponies have lived on Assateague Island for about 300 years. The ponies have become well adapted to the harsh environment, including extreme temperatures in summer and winter. The ponies mainly eat salty marsh grasses and grow thick fur in winter. Domestic horses are larger than the ponies. An Assateague pony drinks twice as much fresh water as a domestic horse does. Other organisms on the island include rodents, birds, small foxes, marsh grasses, mussels, and deer.

Assateague Pony



Domestic Horse



Why have the ponies developed a coat of thick fur?

A. to stay warm

B. to help them swim

C. to prepare them to find mates

D. to protect them from predators

123. The picture below shows four leaves, each from a different tree.

Which leaf is *best* adapted to a dry environment?

A. poplar B. pine C. maple D. oak

124. Use the information below to answer the following question(s).

> Fossils of tree ferns as old as 400 million years have been found in rocks. These ancient ferns lived in swampy, lowland forests and reproduced asexually by producing spores. The ferns were much taller than other plants living at the same time. These extinct tree ferns have modern-day relatives that grow in the tropics.

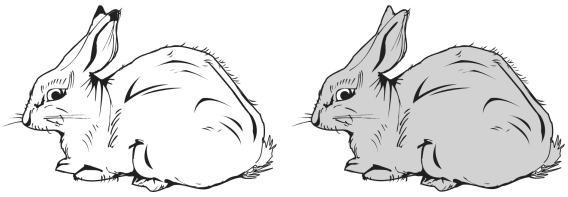
Ancient ground plants competed with ancient tree ferns for resources in swampy areas.

For which resource were the tree ferns *best* able to compete?

A. air B. shelter

C. sunlight D. water

125. As shown in the drawing below, snowshoe hares have thick white fur in the winter and thin gray fur in the summer. Changing fur color with the season provides a certain advantage to these animals.



The advantage of changing fur color is that it

A. helps hares to attract a mate

B. allows hares to build soft dens

C. helps hares to sneak up on prey

D. allows hares to blend with the environment

126. Use the information and the figure below to answer the following question(s).

A population of land snails colonized a field of light-colored grasses. At first, the population contained two types of snails, one with brown bands on their shells and another with yellow bands on their shells, as shown in the figure below. After 10 years, most of the snails had shells with yellow bands.

SNAIL SHELL WITH YELLOW BANDS **SNAIL SHELL WITH BROWN BANDS**

What process *most likely* led to an increase in the number of snails with yellow bands?

A. mutation
B. succession
C. natural selection
D. genetic engineering

127. What is the *most likely* reason that there are more yellow-banded snails present in the grassland?

A. The yellow-banded snails were less visible to predators.
B. The yellow-banded snails were better at acquiring food.
C. The brown-banded snails were infected more often by parasites.
D. The brown-banded snails were too slow to escape from predators.

128. Mammals living in extremely cold climates typically have thick fur and a layer of fat to insulate them from the cold. Which of these terms *best* describes these characteristics?

A. translations
B. alterations
C. adaptations
D. recombinations

129. Use the information and the table below to answer the following question(s).

A scientist studied iguanas on the Galapagos Islands. He discovered two species of iguanas that live in different habitats and display very different behaviors. His observations are listed in the table below.

OBSERVATIONS OF TWO SPECIES OF IGUANAS

Marine Iguana	Land Iguana
• spends most of its time in the ocean • is never found more than 10 yards from the shore • eats mainly marine algae	• spends most of its time on land • is found far inland • eats cacti and other land plants

Which of these is a correct statement about the two species of iguanas?

A. Both species of iguanas arose through the process of succession.
B. The two species of iguanas occupy two distinct niches.
C. The two species of iguanas occupy overlapping niches.
D. The marine iguana is a scavenger, and the land iguana is an omnivore.

130. Which of these is *necessary* for natural selection to occur?

A. genetic engineering

B. genetic variation

C. asexual reproduction

D. environmental stability

131. Rabbits that live in warm climates have larger ears than rabbits that live in cold climates. Larger ears allow rabbits to cool themselves by releasing body heat. Which term describes this characteristic?

A. alteration B. mutation

C. adaptation D. recombination

132. Students collected leaves from four maple trees. They measured the length and width of each leaf. Then they calculated the average values for each tree. The data are shown in the table below.

LEAF SIZE OF MAPLE TREES

Tree	Average Length (cm)	Average Width (cm)
1	16.0	9.0
2	10.0	5.0
3	19.0	10.0
4	15.0	8.0

According to the data, which tree has a selective advantage in capturing sunlight?

A. 1 B. 2 C. 3 D. 4

133. The mole rat is an animal that avoids predators by living underground. Its long claws and teeth allow it to dig deep holes. Scientists believe the ancestors of the mole rat lived above ground and had shorter claws and teeth.

Which of these processes resulted in the long claws and teeth found in the modern mole rat?

A. natural selection

B. selective breeding

C. genetic engineering

D. asexual reproduction

134. Use the information below to answer the following question(s).

> The largest flower in the world, called a rafflesia, is three feet wide and weighs up to 36 pounds. The rafflesia has no roots, stems, or leaves. It lives on and takes nourishment from a vine called tetrastigma. The rafflesia harms the vine.
>
> The seeds of the rafflesia are dispersed in an unusual way. Plantain squirrels and tree shrews eat parts of the rafflesia plant. Scientists observe that when the animals chew the rafflesia, seeds get caught in their teeth. The animals will then chew on tetrastigma vines, leaving the seeds where they can germinate.

Rafflesia flowers produce the smell of rotting flesh. This smell attracts flies. When the flies land on the flowers, the pollen attaches to them. The flies then transport the pollen to other flowers.

Producing a smell to attract flies an example of

A. parasitism B. adaptation

C. replication D. predation

135. Which of these will *most likely* result in variation within a species?

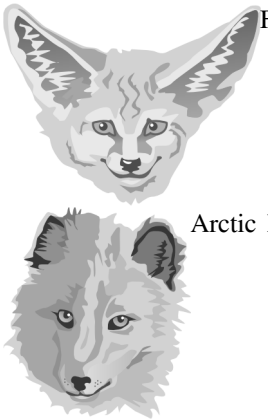
A. mutation
B. succession
C. diffusion
D. competition

136. Researchers are studying slider turtles. Slider turtles hatch on the beach. The researchers discovered that larger baby turtles were more likely to survive than smaller baby turtles. They hypothesized that the larger turtles could move more quickly toward the water than the smaller turtles, reducing their exposure to predators.

The survival advantage for the larger baby turtles is a result of

A. natural selection
B. gene splicing
C. mutualism
D. commensalism

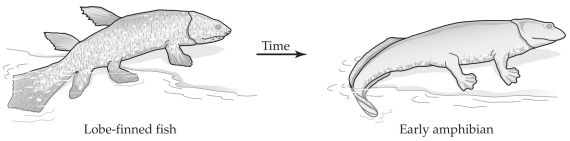
137. The ears of foxes help to regulate body heat. The fennec fox lives in the North African desert and has large ears that release body heat. The Arctic fox lives in cold climates and has small ears that conserve body heat.



Which of these processes led to the development of different ear sizes in foxes?

A. selective breeding
B. succession
C. natural selection
D. mutualism

138. Amphibians were the first vertebrates to live on land. The ancestors of amphibians were probably lobe-finned fish. The diagram below shows this development of amphibians over time.



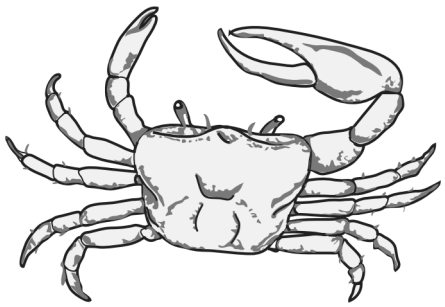
Which of these terms *best* describes how amphibians could have developed from lobe-finned fish?

A. selective breeding
B. cloning
C. migration
D. natural selection

139. Use the information and the figure below to answer the following question(s).

Male fiddler crabs attract females by quickly waving their large front claw. If a claw is lost in a fight or accident, they quickly grow a hollow claw of equal length. Because the new claw is lighter, they can wave it faster. A male fiddler crab is shown below.

MALE FIDDLER CRAB



The male fiddler crab's new claw can be described as

A. a clone
B. a genotype
C. an adaptation
D. a dominant trait

140. The new claw probably helps the male fiddler crab to

A. successfully reproduce
B. maintain homeostasis
C. fight more successfully
D. evolve into a new species

141. Use the information below to answer the following question(s).

An insecticide is a chemical that kills insects. Most insects are killed the first time they are exposed to an insecticide. However, some insects carry a gene that enables them to survive their first exposure to an insecticide. When these surviving insects reproduce, this gene may be inherited by their offspring. The number of insecticide-resistant insects usually increases over time because increasing numbers of offspring with this gene are able to survive and reproduce.

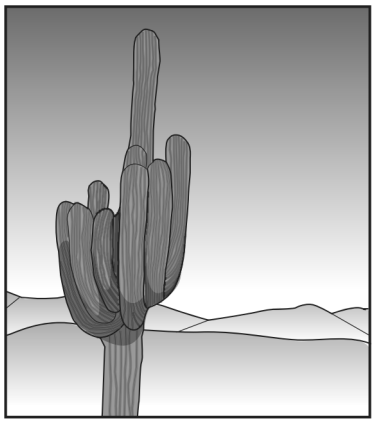
Which process enables increasing numbers of insects to survive their initial exposure to an insecticide?

A. cloning
B. mutation
C. natural selection
D. genetic engineering

142. Use the information and the drawing below to answer the following question(s).

The desert climate is caused by geographic conditions such as location, high atmospheric pressure, and proximity of mountain ranges. Average desert rainfall amounts are usually less than 50 cm per year. Soil in deserts is coarse, sandy, and rocky. Desert plants and animals have specialized characteristics that help them survive in the harsh environment. An example is the Saguaro cactus. The Saguaro has a shallow root system with a main taproot and other roots that radiate out and collect surface water. The trunk of the Saguaro has the ability to expand while storing water. The sweet-nectar flowers of the Saguaro attract white-winged doves, bats, and other animals. These animals feed on the nectar. They are necessary for cross-pollination. Cross-pollination occurs when the pollen of a flower is carried to a flower on another plant. The illustration below shows the Saguaro cactus.

SAGUARO CACTUS



Which advantage is the *most likely* result of cross-pollination to Saguaro cacti?

A. disease resistance

B. variation within the species

C. larger cacti offspring in each generation

D. increased number of animals that drink nectar

143. Use the information below to answer the following question(s).

Scientists have observed that when a largemouth bass tries to eat a whirligig beetle, the fish is likely to get more than just a meal. Once inside the mouth of a bass, the beetle releases a foul-tasting substance into the fish's mouth. The fish responds to this by swishing the beetle around in its mouth, spitting the beetle out into the water, and scooping the beetle back into its mouth. The bass is exhibiting a "flushing" behavior. Unlike other insects, whirligig beetles do not release all of their foul-tasting substance the first time they are pulled into a predator's mouth. Each time the bass scoops the beetle back into its mouth, more of the substance is released. The bass must exhibit "flushing" again and again. If the bass tires of "flushing" before the beetle runs out of its foul-tasting substance, the beetle can avoid becoming the bass's next meal.

The ability of whirligig beetles to gradually release a foul-tasting substance *most likely* results from

A. mutation

B. succession

C. natural disasters

D. recombinant DNA

144. Use the information below to answer the following question(s).

Plants grow in various environments. Some plants, like mangroves, grow in salty wetlands. Mangroves have specialized structures that prevent salt from entering their cells. Other mangroves have specialized glands that can excrete excess salt.

Glands that excrete salt in the mangroves are examples of

A. meiosis

B. osmosis

C. adaptations

D. successions

145. The ears of foxes help to regulate body heat. The fennec fox lives in the desert. It has large ears that release body heat. The Arctic fox lives in cold climates. It has small ears that conserve body heat.

Fennec Fox

Arctic Fox

Which of these processes led to the development of different ear sizes in foxes?

A. selective breeding
B. natural selection
C. mutualism

146. In Maryland, most bears have thick, dark fur.

Which statement *best* explains how dark fur helps bears survive in the forests of Maryland?

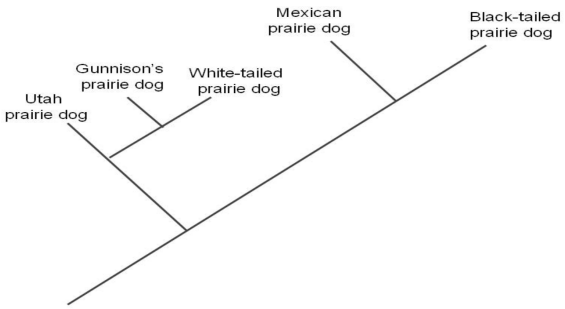
A. Dark fur is lightweight.
B. Dark fur scares enemies.
C. Dark fur helps bears hide.
D. Dark fur keeps bears cool.

147. The snowshoe hare sheds its fur twice a year. In the summer, the fur of the hare is brown. In the winter, the fur is white.

Which of these statements *best* explains the advantage of shedding fur?

A. Shedding fur keeps the hare clean.
B. Shedding fur helps the hare move quickly.
C. Shedding fur keeps the hare's home warm.
D. Shedding fur helps the hare blend into its habitat.

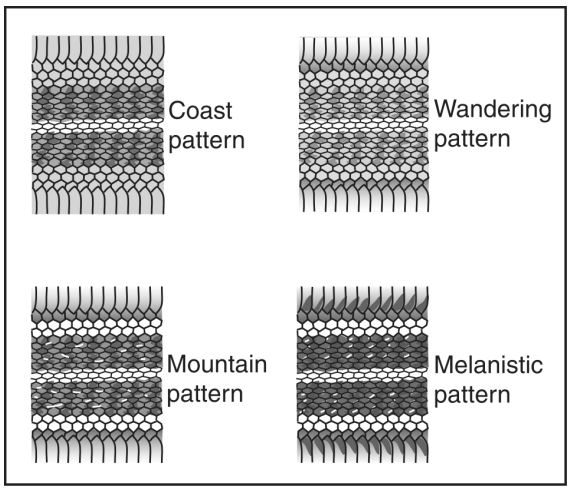
148. The figure below shows the classification of several types of prairie dogs.



Which of the following statements is *best* supported by the classification in this figure?

A. The Utah prairie dog was the ancestor of the Gunnison's prairie dog.
B. The White-tailed prairie dog evolved from the Black-tailed prairie dog.
C. The Mexican prairie dog and the Utah prairie dog share a common ancestor.
D. The Mexican prairie dog is the closest relative of the White-tailed prairie dog.

149. Shown below are four different skin patterns found in the western garter snake.



The patterns *most* likely reflect differences in the snakes'

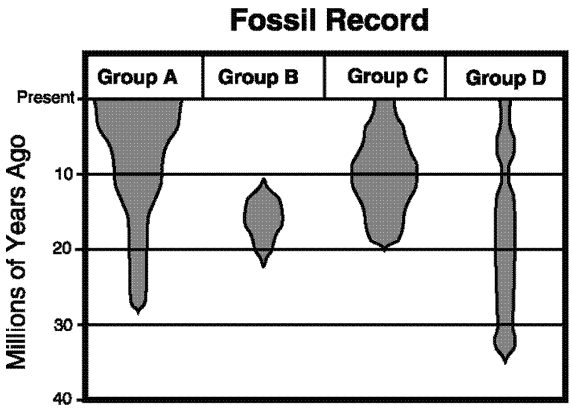
A. life cycle.
B. food source.
C. size.
D. habitat.

150. Skeletal structures are common between two animals of different species. These structures probably exist because both species

A. have a common food source.
B. live in the same environment.
C. have survived until the present time.
D. are related to a common ancestor.

151. **Fossil Record**

In a section of the Grand Canyon, scientists have found the fossil remains of several different groups of organisms. The diagram below represents the number and age of the fossils the scientists found. The width of each shaded area in the diagram below indicates the relative number of fossils found.



The scientists hypothesize that the four groups of fossilized organisms originated from a common ancestor. Which of the following would provide the best evidence that their hypothesis is correct?

A. The number of fossils found in each group is similar.
B. Present-day members of the groups live in the same environment.
C. Fossils from each group were found in the same rock layer.
D. Members of the groups have similar physical structures.

152. Which statement describes the *best* evidence that two species share a recent common ancestor?

A. The species are about the same size.

B. The species eat the same type of food.

C. The species live in the same ecosystem.

D. The species have similar DNA sequences.

153. Sharks and turtles have many similarities in their proteins.

What does this suggest about these animals?

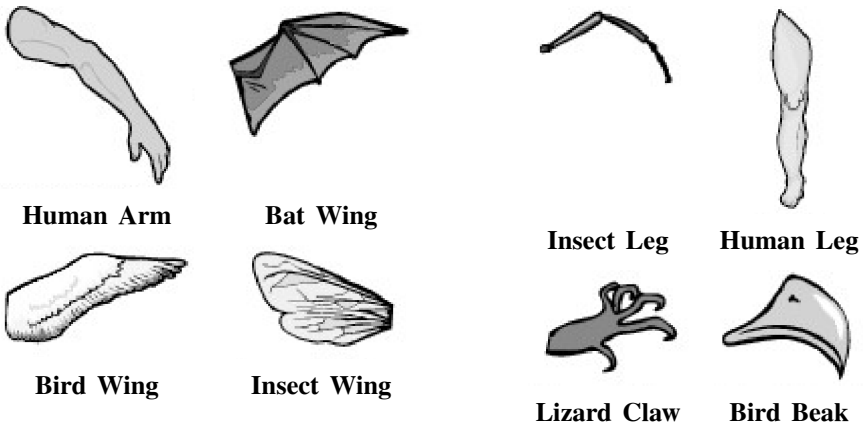
A. They have the same number of chromosomes.

B. They have identical DNA sequences.

C. They have a common ancestor.

D. They are becoming more alike.

154. One piece of evidence that supports the modern theory of evolution is the presence of similar structures that serve different functions in different organisms.



Which pair of features shown are similar structures that are serving different functions?

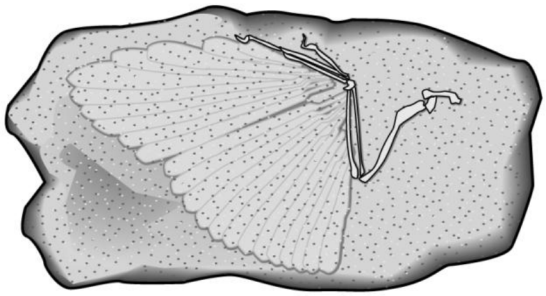
A. Human arm and bat wing

B. Insect leg and human leg

C. Bird wing and insect wing

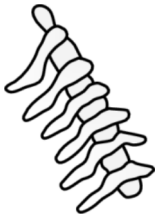
D. Lizard claw and bird beak

155. The picture below shows a fossil of a body section.



Which of the following is most similar to the body section shown above?

A. 

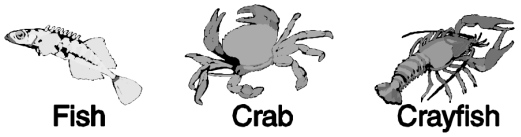
B. 

C. 

D. 

156. Which group of living things shares the *most* characteristics?

A. 

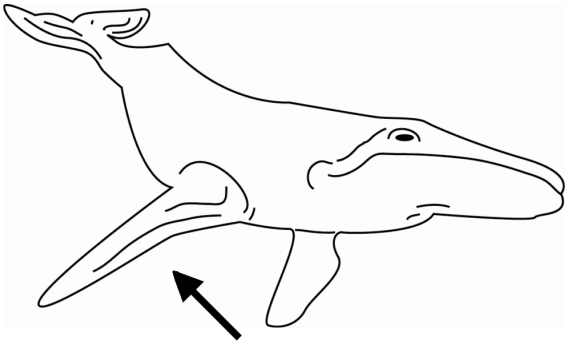
B. 

C. 

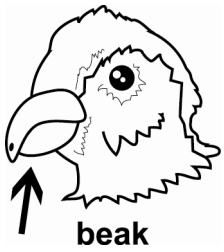
D. 

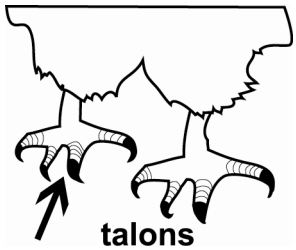
157. **Use the picture below to answer the question.**

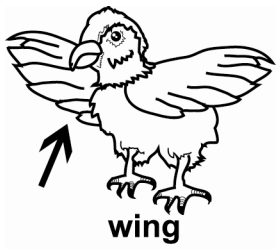
Whale



Look where the arrow is pointing on the whale. What part of a bird is most similar to this part of the whale?

A. 

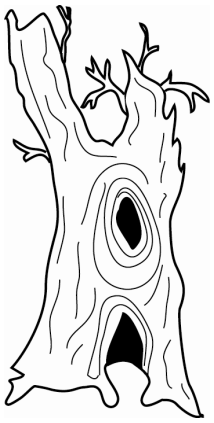
B. 

C. 

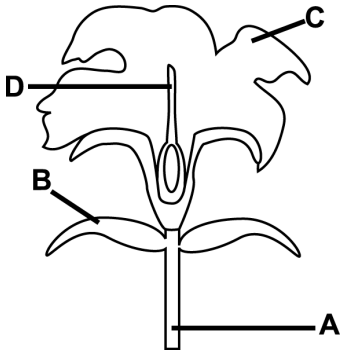
D. 

158. **Use the pictures below to answer the question.**

Tree Trunk



Flower

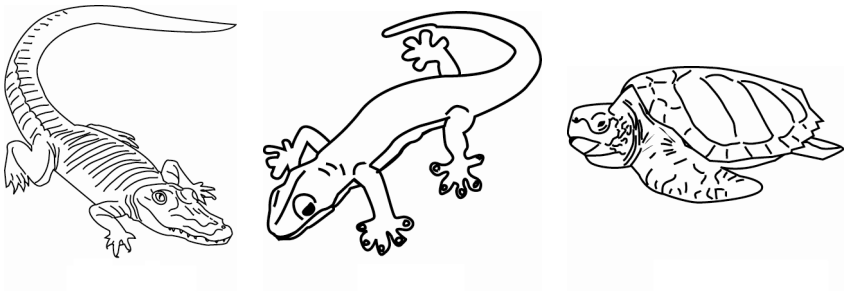


What part of the flower is most similar in use to the tree trunk?

A. part A
B. part B
C. part C
D. part D

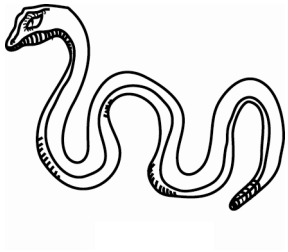
159. Use the three pictures of related animals below to answer the question.

Related Animals

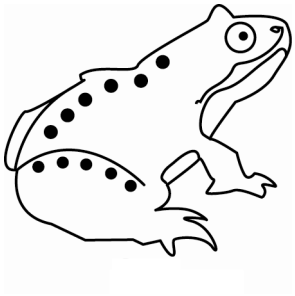


alligator **lizard** **turtle**

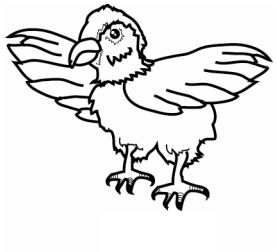
Which animal is *most* closely related to the animals in the pictures above?

A. 

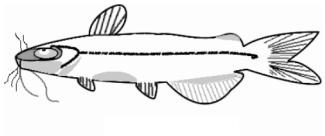
snake

B. 

frog

C. 

bird

D. 

catfish

160. Which is the *best* evidence that two species have a common ancestor?

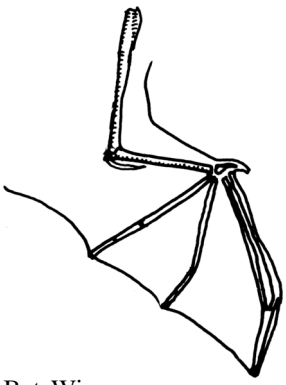
A. The two species have the same diet.

B. The two species live in the same habitat.

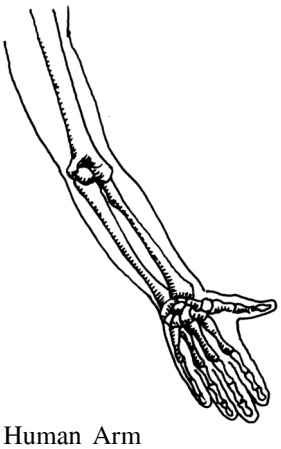
C. The two species' DNA sequences are 90% identical.

D. The two species' skeletal structures are 90% identical.

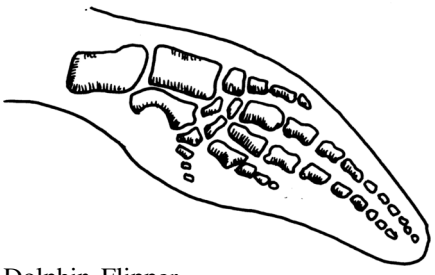
161. The pictures below show bone structures in three animals.



Bat Wing



Human Arm



Dolphin Flipper

The similarity in structure of the bones of these animals suggests that

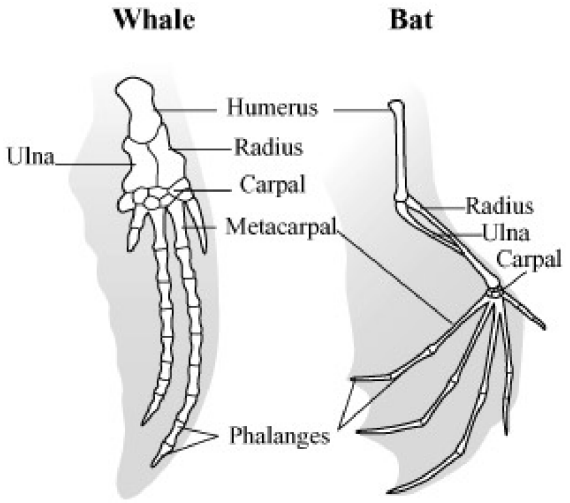
A. the size of these bones is the same.

B. these species share common ancestors.

C. these species developed at the same time and location.

D. the chemical make-up of these animals is exactly the same.

162. The bones of a whale flipper are similar to the bones of a bat wing as shown in the illustration below.



What does this similarity in bone structure suggest about the whale and the bat?

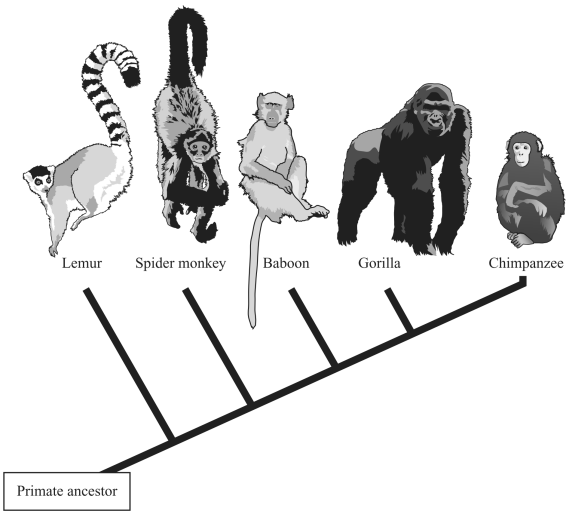
A. They use the same methods to travel.

B. They evolved from a common ancestor.

C. They can migrate to the same locations.

D. They can manipulate objects in the same way.

163. The diagram below shows the evolutionary relationship of several primates.



Based on the diagram, which of the following statements is true?

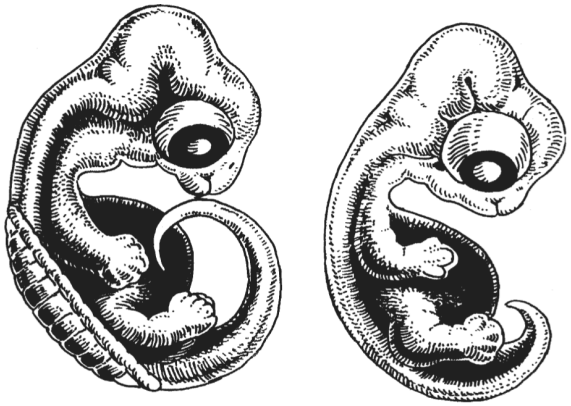
A. Lemurs were the most recent to evolve.

B. Gorillas evolved directly from chimpanzees.

C. Spider monkeys and lemurs evolved at the same time.

D. Gorillas and baboons evolved from a common ancestor.

164. The drawings below show a turtle embryo and a chicken embryo.



Turtle Chicken

Which of the following statements is supported by the similarities between these embryos?

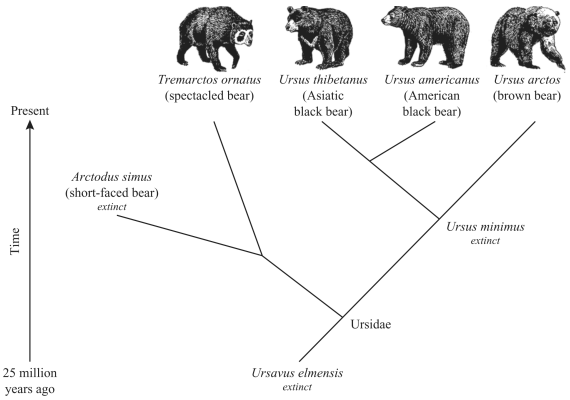
A. The turtle is more advanced than the chicken.

B. The chicken has more offspring than the turtle.

C. The turtle and the chicken are similar as adults.

D. The chicken and the turtle share a common ancestor.

165. A student researching bears found the chart below in a textbook. The chart shows the



Which of the following conclusions is *best* supported by the data given in this chart?

A. Modern bears evolved from species that are now extinct.

B. The short-faced bear was the ancestor of the Asiatic black bear.

C. Present day bear species are more closely related than their ancestors were.

D. Natural selection favored the brown bear over the American black bear.

166. Which of the following provides the *most conclusive* evidence that organisms of two different species share a common ancestor?

A. They live in the same ecosystem.

B. They reproduce at the same time.

C. They have similar DNA sequences.

D. They have similar body movements.

167. Frogs, lizards, and birds all have a similar arrangement of bones in their limbs. Which of the following does this similarity *most likely* indicate about these animals?

A. They move in the same way.

B. They have a common ancestry.

C. They evolved at the same time.

D. They are comparable in size as adults.

168. Some scientists use molecular evidence to study evolution. One type of molecular evidence is the amino acid sequence of particular proteins in various species.

Which of the following *best* describes what the study of these sequences reveals about the species?

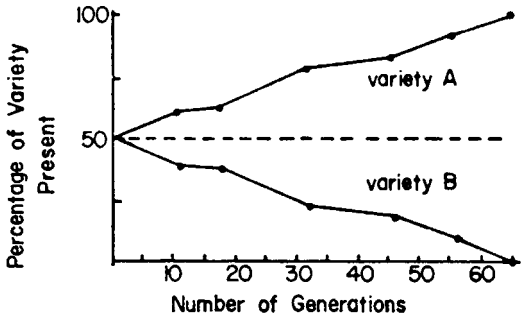
A. The more similar the sequences are, the faster the species will coevolve.

B. The more similar the sequences are, the more closely related the species are.

C. The longer the sequences are, the earlier the species evolved in geologic history.

D. The longer the sequences are, the more adapted the species are to their environments.

169. The graph shown illustrates changes in the percentages of two varieties of a certain species.



Which variety will contribute significantly to the future of the species gene pool?

A. variety *A*, only

B. variety *B*, only

C. both variety *A* and *B*

D. neither variety *A* nor variety *B*

170. Over a long period of time the organisms on an island changed so that they could no longer interbreed with the organisms on a neighboring island. This inability to interbreed is known as

A. hybridization

B. reproductive isolation

C. artificial selection

D. survival of the fittest

171. Humans have modified some animal species by breeding only those that possess certain desirable traits. As a result, we have racehorses and greyhounds that are faster than their predecessors.

In a similar way many animals have been modified naturally. The giraffe has long forelegs and a long neck, head, and tongue which make it well adapted for browsing in the higher branches of trees. Therefore the giraffe can obtain food that is beyond the reach of other animals, especially during droughts. Ancient populations of giraffes varied in the relative length of their body parts. Those giraffes that were able to browse the highest were more likely to survive. They mated and their offspring often inherited the structural characteristics suitable for high browsing. The giraffes that could not reach the food supply most likely died of starvation and therefore did not produce as many offspring as those that could reach higher.

Which idea included in Darwin's theory of evolution is *not* found in the passage?

A. variation

B. struggle for existence

C. overproduction

D. survival of the fittest

172. Which are two factors that change gene frequencies in a population?

A. no mutations and large populations

B. no migration and no mutations

C. large populations and random mating

D. mutations and nonrandom mating

173. Geographic isolation of organisms increases the likelihood of genetic differentiation. This genetic differentiation occurs because geographic isolation

A. prevents interbreeding between populations

B. prevents interbreeding within populations

C. stimulates the production of different kinds of enzymes

D. accelerates the production of new mutations

174. According to the theory of natural selection, genes responsible for new traits that are beneficial to the survival of a species in a particular environment will usually

A. decrease suddenly in frequency

B. decrease gradually in frequency

C. not change in frequency

D. increase in frequency

175. A species of frog has inhabited the tropical rain forests of South America for the past one million years. Which two factors would tend to disrupt the gene pool stability of this frog population?

A. low mutation rate and random mating

B. high mutation rate and numerous migrations

C. low mutation rate and no migrations

D. large population random mating

176. The change in gene pool frequencies in a population would most likely be caused by

A. geographic isolation

B. no migration

C. no mutation

D. large population size

177. According to the Hardy-Weinberg principle, which factors tend to keep a population's gene frequencies constant?

A. high mutation rate and geographic isolation

B. large population size and random mating

C. nonrandom mating and frequent migrations

D. small population size and changing environmental conditions

178. According to the Hardy-Weinberg principle, gene frequencies would tend to remain constant within a population of deer mice, *Peromyscus maniculatus*, when

A. the population size decreases

B. mutation rates within the population are high

C. the population mates randomly

D. frequent migrations both into and out of the population occur

179. Select the term, *chosen from the list below*, that is best described by the statement shown.

The total of all the heritable genes that exist in a given population

A. Genetic Code B. Gene pool

C. Gene mutation D. Genotype

180. The total of the heritable factors for the traits in the deer population of New York State is an example of a

A. gene pool

B. phenotypic ratio

C. diploid number

D. chromosome number

181. Which group of organisms is an example of a population?

A. leopard frogs in a stream

B. birds in Colorado

C. reptiles in the Sahara Desert

D. trees in a forest

182. Differences between the members of a population will most likely be passed to future generations if they are

A. due to genetic changes and result in unfavorable variations

B. due to genetic changes and result in favorable variations

C. not due to genetic changes and result in unfavorable variations

D. not due to genetic changes and result in favorable variations

183. An example of a population is

A. all the *Zapus hudsonicus* in New York State

B. all the fish in Lake Erie

C. the number of different species of *Felis* in a geographic area

D. the number of maples, white oaks, spruce, gray squirrels, and owls in a forest

184. The gene frequency for a particular trait in a population was determined to be 80% *A* (dominant allele) and 20% *a* (recessive allele). Fifty years later, the gene frequency was determined to be 60% *A* and 40% *a*. What does this change indicate about the gene pool?

A. It has remained stable.

B. It is evolving.

C. It has become predominantly recessive.

D. It lacks mutation.

185. In Yellowstone National Park, some species of algae and bacteria can survive and reproduce in hot springs at temperatures near the boiling point of water. The ability to survive and reproduce at these temperatures is an example of

A. aggregate formation

B. adaptation

C. artificial selection

D. reproductive isolation

186. Many squirrels in the city of Syracuse are black, rather than the typical gray. This coloration is due to the presence of a gene that codes for the production of more melanin than is produced in gray squirrels.

The relative frequencies of black and gray color in the squirrel population in Syracuse would tend to remain constant if

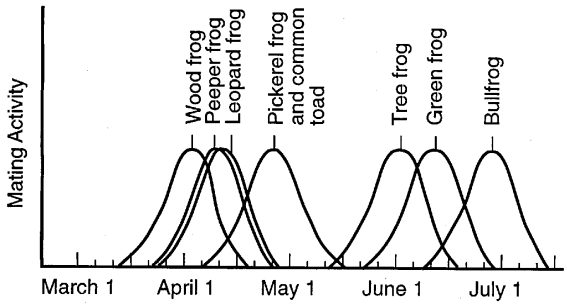
A. the squirrel population is small and some squirrels migrate out of the city

B. no mutations in genes for color occur and the squirrels do not mate randomly

C. a large number of squirrels migrate into the city and random mating occurs

D. the squirrel population is large and no mutations in genes for color occur

187. A field biologist was researching the possibility of interbreeding among various amphibians living in a particular habitat in New York State. The mating timetable for these amphibians is shown. Which generalization could the field biologist correctly make?



A. The peeper frog and green frog do not interbreed.

B. All of the amphibians interbreed randomly throughout the mating season.

C. The wood frog and tree frog interbreed.

D. The frogs can interbreed with any of the other frogs but not with toads.

188. Which factor would contribute to instability in the gene pool of population A?

A. no migration

B. random mating

C. high frequency of mutations

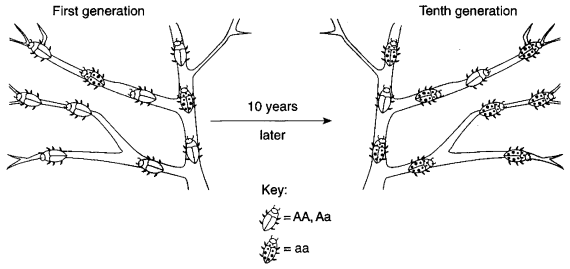
D. heterotrophic nutrition

A COMPARISON OF FOUR ANIMAL POPULATIONS

Pop.	Relative Size of Pop.	Type of Mating	Frequency of Mutations
A	very small	random	high
B	large	nonrandom	moderate
C	small	random	low
D	large	random	low

189. The diagram shown illustrates the change that occured in the frequency of phenotypes in an insect population over 10 generations.

A probable explanation for this change would be that over time there was



A. a decrease in the adaptive value of gene *a*

B. an increase in the adaptive value of gene *a*

C. an increase in the population of this insect

D. a decrease in the mutation rate of gene *A*

190. Characteristics of a species that make its members better able to live and reproduce in their environment are known as

A. favorable adaptations

B. homologous structures

C. abiotic factors

D. biotic factors

191. A large population of houseflies was sprayed with a newly developed, fast-acting insecticide. The appearance of some houseflies that are resistant to this insecticide supports the concept that

A. species traits tend to remain constant

B. biocides cause mutations

C. variation exists within a species

D. the environment does not change

192. It is thought that all citrus fruit trees evolved from a common ancestor because of their common ability to synthesize citric acid. This type of evidence of evolution is known as

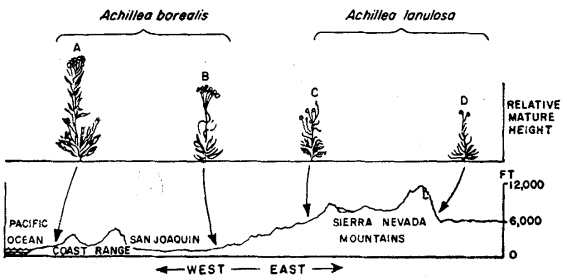
A. comparative embryology

B. comparative biochemistry

C. geographical distribution

D. anatomical similarity

193. The diagram shown represents the distribution and variation in two similar species of plants.



If groups *C* and *D* remain isolated from each other by the Sierra Nevada Mountains for a long period of time, what will most probably occur?

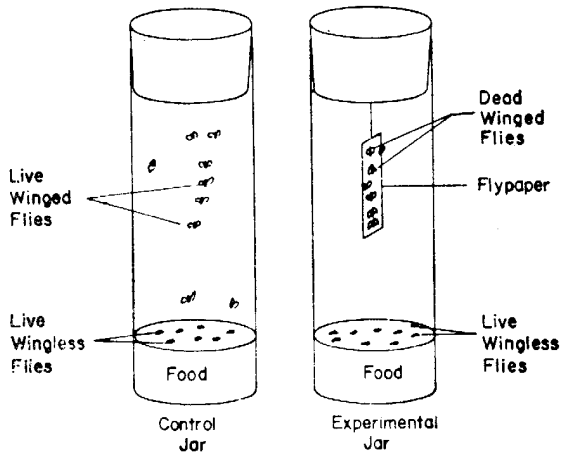
A. *D* will become extinct within its native range.

B. *C* will become more similar to *D*.

C. Accumulated variations will prevent successful interbreeding between *C* and *D*.

D. *C* will gradually evolve into a marine species.

194. The diagram represents jars containing all the nutrients necessary for the growth and reproduction of fruit flies. A strip of sticky flypaper was suspended from the top of the experimental jar. Some fruit flies with wings and some fruit flies that lacked wings were placed in both jars. After a week, only the wingless flies were alive in the experimental jar, while in the control jar, both varieties of flies were still alive, as indicated in the diagram.



Darwin would have been most likely to agree with which statement describing the results of this investigation?

A. Mutation is responsible for the survival of all flies in the control jar.

B. The type of food provided in the experimental jar did not promote survival of winged flies.

C. In all environments, wingless flies are better adapted for survival than winged flies.

D. The flypaper is a selecting agent against the winged flies.

195. A bird's developmental stages resemble those of a reptile. This observation is often used to illustrate the probable common ancestry of these organisms through the study of

A. comparative biochemistry

B. punctuated equilibrium

C. comparative embryology

D. natural selection

196. An idea that was an original part of Darwin's theory of natural selection is that

A. gene mutations provide the basis for variation

B. more offspring are produced than can survive

C. organs evolve as a result of need

D. gene pools of a population tend to remain stable

197. The study of living organisms and fossils suggests that organisms have undergone slow and continuous change since they first appeared on Earth. Based on the rate of change, this concept is known as

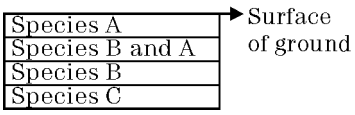
A. gradualism

B. punctuated equilibrium

C. intermediate inheritance

D. cell theory

198. The diagram shown represents a section of undisturbed layers of sedimentary rock in New York State and shows the location of fossils of several closely related species. According to currently accepted evolutionary theory, which is the most probable assumption about species *A*, *B* and *C*?



A. Species *B* is more abundant than species *C*.

B. Species *C* existed before species *B*.

C. Species *A* and *B* are genetically identical.

D. Species *B* descended from species *A*.

199. The fact that vertebrate embryos pass through similar stages of development is evidence for

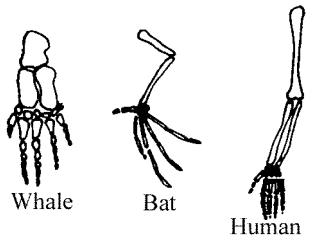
A. acquired characteristics

B. common ancestry

C. use and disuse

D. homologous structures

200. The diagrams represent the forelimbs of three different vertebrates. Which field of study, providing evidence for evolution, is represented by the similarity in bone structure among these three organisms?



A. comparative embryology

B. comparative physiology

C. comparative anatomy

D. comparative biochemistry

Biology Standard 6 All elements 4/24/2023

1.
Answer: B
Points: 1

2.
Answer: A
Points: 1

3.
Answer: D
Points: 1

4.
Answer: B
Points: 1

5.
Answer: B
Points: 1

6.
Answer: A
Points: 1

7.
Answer: D
Points: 1

8.
Answer: D
Points: 1

9.
Answer: C
Points: 1

10.
Answer: C
Points: 1

11.
Answer: C
Points: 1

12.
Answer: A
Points: 1

13.
Answer: B
Points: 1

14.
Answer: C
Points: 1

15.
Answer: C
Points: 1

16.
Answer: A
Points: 1

17.
Answer: B
Points: 1

18.
Answer: B
Points: 1

19.
Answer: D
Points: 1

20.
Answer: D
Points: 1

21.
Answer: D
Points: 1

22.
Answer: C
Points: 1

23.
Answer: C
Points: 1

24.
Answer: D
Points: 1

25.
Answer: C
Points: 1

26.
Answer: A
Points: 1

27.
Answer: B
Points: 1

28.
Answer:
Objective: D.INQ.9
Points: 1

29.
Answer: D
Objective: D.41
Points: 1

30.
Answer: A
Points: 1

31.
Answer: B
Points: 1

32.
Answer: B
Points: 1

33.
Answer: A
Points: 1

34.
Answer: D
Points: 1

35.
Answer: C
Points: 1

36.
Answer: B
Points: 1

37.
Answer: C
Points: 1

38.
Answer: D
Points: 1

39.
Answer: B
Points: 1

40.
Answer: D
Points: 1

41.
Answer: C
Objective: LA LS-M-D2
Points: 1

42.
Answer: D
Objective: LA LS-M-C3
Points: 1

43.
Answer: C
Objective: LA SI-H-A5
Points: 1

44.
Answer: C
Objective: LA SE-H-A8
Points: 1

45.
Answer: A
Objective: LA LS-M-D1
Points: 1

46.
Answer: A
Objective: LA LS-M-D1
Points: 1

47.
Answer: D
Objective: LA LS-M-C3
Points: 1

48.
Answer: C
Objective: LA LS-M-D2
Points: 1

49.
Answer: C
Objective: MA 7
Points: 1

50.
Answer: D
Objective: MA 7
Points: 1

51.
Answer: A
Objective: MA 7
Points: 1

52.
Answer: D
Objective: MA 6
Points: 1

53.
Answer: B
Objective: MA 6
Points: 1

54.
Answer: B
Objective: MA 6
Points: 1

55.
Answer: D
Objective: MA 9
Points: 1

56.
Answer: A
Objective: MA 6
Points: 1

57.
Answer: A
Objective: MA 9
Points: 1

58.
Answer: D
Objective: MA 6
Points: 1

59.
Answer: B
Objective: MA 18
Points: 1

60.
Answer: B
Objective: MA 10
Points: 1

61.
Answer: C
Objective: MA 11
Points: 1

62.
Answer: B
Objective: MA 18
Points: 1

63.
Answer: C
Objective: MA 10
Points: 1

64.
Answer: B
Objective: MA 5.1
Points: 1

65.
Answer: C
Objective: MA 5.2
Points: 1

66.
Answer: B
Objective: MA 5.2
Points: 1

67.
Answer: A
Objective: MA 5.1
Points: 1

68.
Answer: D
Objective: MA 5.2
Points: 1

69.
Answer: A
Objective: MA 5.2
Points: 1

70.
Answer: B
Objective: MA 5.3
Points: 1

71.
Answer: B
Objective: MA 5.3
Points: 1

72.
Answer: D
Objective: MA 5.3
Points: 1

73.
Answer: B
Objective: MA 5.1
Points: 1

74.
Answer: B
Objective: MA 5.3
Points: 1

75.
Answer: D
Objective: MA 5.3
Points: 1

76.
Answer: D
Objective: MA 5.1
Points: 1

77.
Answer: C
Objective: MA 5.2
Points: 1

78.
Answer: B
Objective: MA 5.3
Points: 1

79.
Answer: B
Objective: MA 5.3
Points: 1

80.
Answer: A
Objective: MA 5.3
Points: 1

81.
Answer: B
Objective: MA 5.3
Points: 1

82.
Answer: C
Objective: MA 5.3
Points: 1

83.
Answer: A
Objective: MA 6.2
Points: 1

84.
Answer: C
Objective: MA 5.1
Points: 1

85.
Answer: D
Objective: MA 5.3
Points: 1

86.
Answer: B
Objective: MA 5.3
Points: 1

87.
Answer: B
Objective: MA 5.2
Points: 1

88.
Answer: B
Objective: MA 5.2
Points: 1

89.
Answer: D
Objective: MA 5.3
Points: 1

90.
Answer: C
Objective: MA 5.3
Points: 1

91.
Answer: D
Objective: MA 5.1
Points: 1

92.
Answer: C
Objective: MA 5.1
Points: 1

93.
Answer: C
Objective: MA 5.2
Points: 1

94.
Answer: D
Objective: MA 5.3
Points: 1

95.
Answer: A
Objective: MA 5.3
Points: 1

96.
Answer: D
Objective: MA 3.2
Points: 1

97.
Answer: B
Objective: MA 5.3
Points: 1

98.
Answer: A
Objective: MA 5.3
Points: 1

99.
Answer:
Objective: MA 5.3
Points: 1

100.
Answer: C
Objective: MA 10
Points: 1

101.
Answer: A
Objective: MA 9
Points: 1

102.
Answer: B
Objective: MA 8
Points: 1

103.
Answer: D
Objective: MA 12
Points: 1

104.
Answer: C
Objective: MA 5.2
Points: 1

105.
Answer: D
Objective: MA 6.1
Points: 1

106.
Answer: D
Objective: MA 5.3
Points: 1

107.
Answer: A
Objective: MA 5.1
Points: 1

108.
Answer: D
Objective: MA 5.3
Points: 1

109.
Answer: A
Objective: MA 5.3
Points: 1

110.
Answer: C
Objective: MA 5.3
Points: 1

111.
Answer: A
Objective: MA 7
Points: 1

112.
Answer: B
Objective: MA 5.3
Points: 1

113.
Answer: A
Objective: MA 5.3
Points: 1

114.
Answer: D
Objective: MA 5.2
Points: 1

115.
Answer: B
Objective: MA 5.3
Points: 1

116.
Answer: B
Objective: MA 5.3
Points: 1

117.
Answer: C
Objective: MA 5.3
Points: 1

118.
Answer: C
Objective: MA 6.2
Points: 1

119.
Answer:
Objective: MA 5.3
Points: 1

120.
Answer: C
Objective: MA 5.2
Points: 1

121.
Answer: D
Objective: MA 5.1
Points: 1

122.
Answer: A
Objective: 3.A.1.a
Points: 1

123.
Answer: B
Objective: 3.D.1.c
Points: 1

124.
Answer: C
Objective: 3.D.1.b
Points: 1

125.
Answer: D
Objective: 3.D.1.c
Points: 1

126.
Answer:
Points: 1

127.
Answer:
Points: 1

128.
Answer: C
Objective: 3.4.1
Points: 1

129.
Answer: B
Objective: 3.5.2
Points: 1

130.
Answer: B
Objective: 3.4.1
Points: 1

131.
Answer: C
Objective: 3.4.1
Points: 1

132.
Answer: C
Objective: 3.4.1
Points: 1

133.
Answer: A
Objective: 3.4.1
Points: 1

134.
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Objective: 3.4.1
Points: 1

135.
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Objective: 3.4.1
Points: 1

136.
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Objective: 3.4.1
Points: 1

137.
Answer: C
Objective: 3.4.1
Points: 1

138.
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Objective: 3.4.1
Points: 1

139.
Answer: C
Objective: 3.4.1
Points: 1

140.
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Objective: 3.4.1
Points: 1

141.
Answer: C
Objective: 3.4.1
Points: 1

142.
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Objective: 3.4.1
Points: 1

143.
Answer: A
Objective: 3.3.4
Points: 1

144.
Answer: C
Objective: 3.4.1
Points: 1

145.
Answer: B
Points: 1

146.
Answer: C
Objective: 3.D.1.b
Points: 1

147.
Answer: D
Objective: 3.A.1.a
Points: 1

148.
Answer: C
Points: 1

149.
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Points: 1

150.
Answer: D
Points: 1

151.
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Objective: D.INQ.9
Points: 1

152.
Answer: D
Points: 1

153.
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Points: 1

154.
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Points: 1

155.
Answer: C
Points: 1

156.
Answer: A
Objective: LA LS-E-B2
Points: 1

157.
Answer: C
Objective: LA LS-E-A3
Points: 1

158.
Answer: A
Objective: LA LS-E-A3
Points: 1

159.
Answer: A
Objective: LA LS-E-A4
Points: 1

160.
Answer: C
Objective: LA LS-H-C2
Points: 1

161.
Answer: B
Objective: MA 11
Points: 1

162.
Answer: B
Objective: MA 11
Points: 1

163.
Answer: D
Objective: MA 18
Points: 1

164.
Answer: D
Objective: MA 11
Points: 1

165.
Answer: A
Objective: MA 5.1
Points: 1

166.
Answer: C
Objective: MA 5.1
Points: 1

167.
Answer: B
Objective: MA 5.1
Points: 1

168.
Answer: B
Objective: MA 5.1
Points: 1

169.
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Points: 1

170.
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Points: 1

171.
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Points: 1

172.
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Points: 1

173.
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Points: 1

174.
Answer: D
Points: 1

175.
Answer: B
Objective: B.07F
Points: 1

176.
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Points: 1

177.
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Points: 1

178.
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Points: 1

179.
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180.
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181.
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Points: 1

182.
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183.
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184.
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Points: 1

185.
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Points: 1

186.
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Points: 1

187.
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Points: 1

188.
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Points: 1

189.
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Points: 1

190.
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Points: 1

191.
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Points: 1

192.
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Points: 1

193.
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Points: 1

194.
Answer: D
Points: 1

195.
Answer: C
Points: 1

196.
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Points: 1

197.
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Points: 1

198.
Answer: B
Points: 1

199.
Answer: B
Points: 1

200.
Answer: C
Points: 1