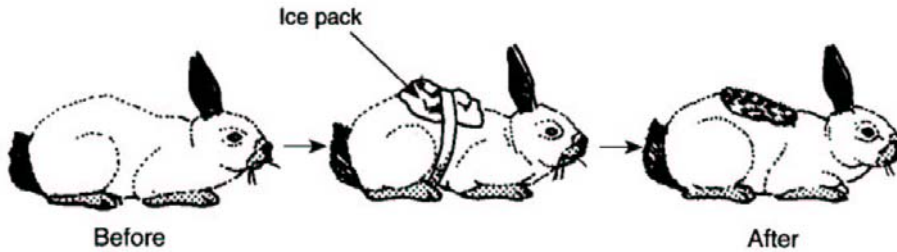


Biology Worksheets – Section Three

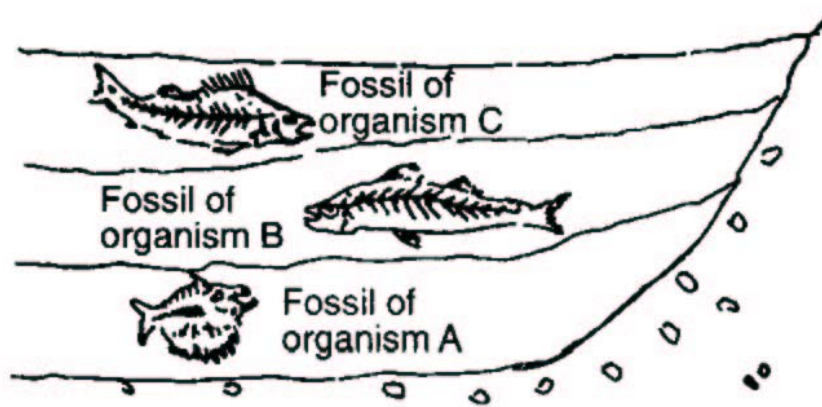
1. The diagram below illustrates what happens to the fur coloration of a Himalayan hare after exposure to a low temperature.



This change in fur coloration is most likely due to

- A. the effect of heredity on gene expression
- B. the arrangement of genes on homologous chromosomes
- C. environmental influences on gene action
- D. mutations resulting from a change in the environment

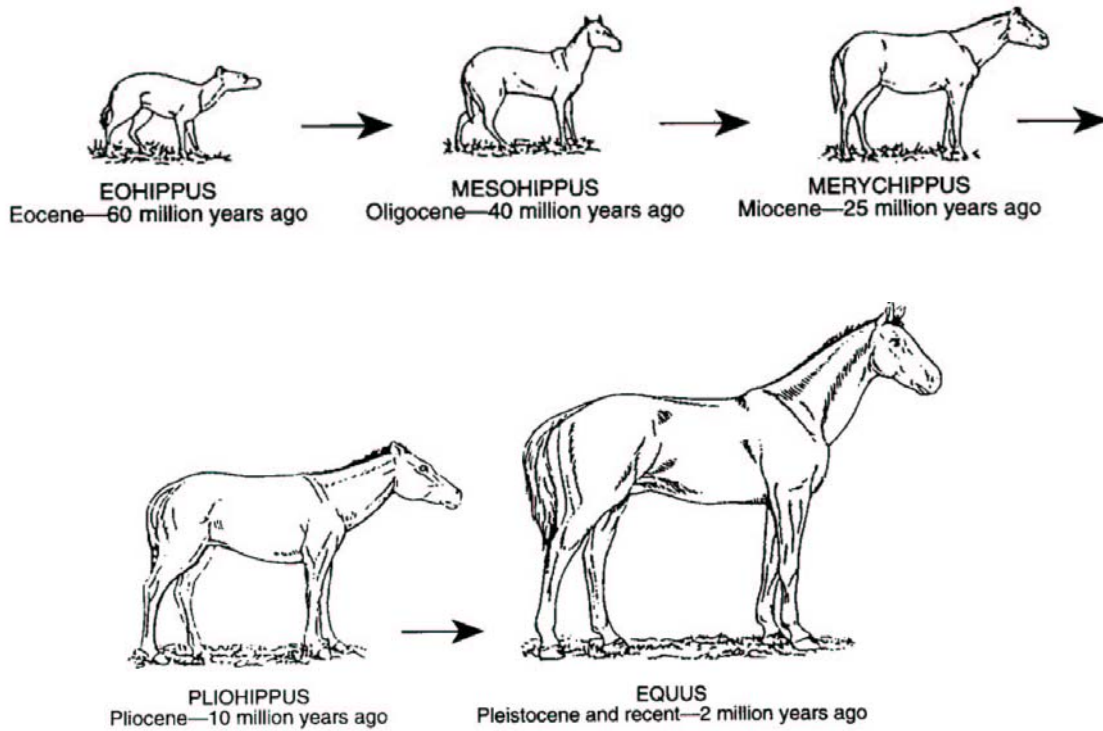
The diagram below represents undisturbed rock strata in a given region. A representative fossil of an organism is illustrated in each layer.



2. Which statement best describes a relationship between these representative organisms?
- A. Organism A was probably more structurally advanced than organism B and organism C.
 - B. Organism C probably gave rise to organism A and organism B.
 - C. All of these organisms probably evolved at the same time.
 - D. Organism A was probably more primitive than organism B and organism C

3. In the early stages of development, the embryos of birds and reptiles resemble each other in many ways. This resemblance suggests that they
- A. belong to the same species
 - B. are adapted for life in the same habitat
 - C. share a common ancestry
 - D. are both animal-like protists
4. In addition to the basic ideas of Darwin, the modern theory of evolution includes the concept that
- A. variations are the result of mutations and gene recombination
 - B. overproduction of organisms leads to extinction.
 - C. variations exist only in large populations
 - D. competition occurs only between members of the same species
- G. What will most likely happen if the gene frequencies in a given population remain constant?
- A. Recessive characteristics will increase in the population.
 - B. Evolution will not take place within that population.
 - C. Dominant characteristics will increase in the population.
 - D. Evolution within that population will occur at a faster rate.
- H. Some species undergo long periods of stability interrupted by geologically brief periods of significant change. During these brief periods, new species may evolve. This pattern of evolution is part of the concept of
- A. use and disuse
 - B. reproductive isolation
 - C. homologous structures
 - D. punctuated equilibrium
- I. One widely accepted theory states that the first forms of life were heterotrophs. Later, some organisms developed the ability to use atmospheric carbon dioxide to produce organic nutrients. Organisms with this capability represented the evolution of the first
- A. herbivores
 - B. carnivores
 - C. decomposers
 - D. autotrophs

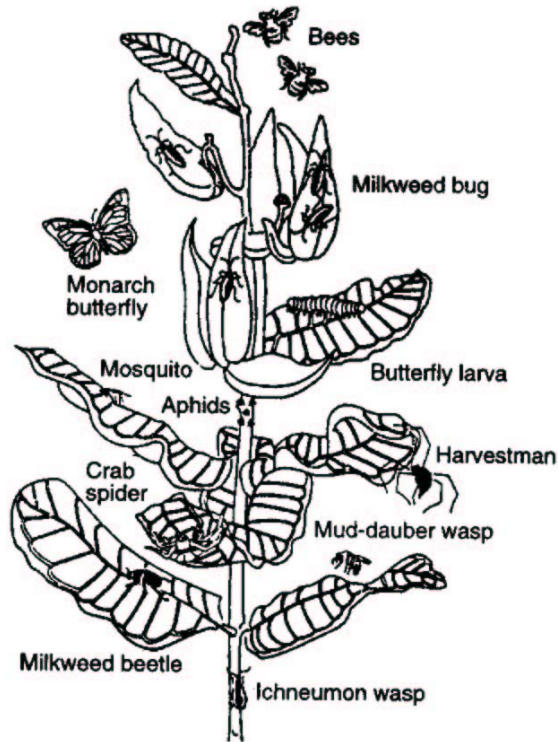
- J. The diagrams below represent some structural changes that occurred over time, resulting in the development of the modern horse.



This sequence of structural changes best illustrates the concept of

- A. organic evolution
 - B. ecological succession
 - C. intermediate inheritance
 - D. geographic isolation
- K. Hawks and owls living in the same area compete for the same type of mouse for food. Which situation would lead to the greatest problem in food supply?
- A. an increase in the owl population
 - B. an increase in the mouse population
 - C. a decrease in the hawk population
 - D. a decrease in the owl population
- L. Which group represents a population?
- A. all the vertebrates living in New York State
 - B. all the Homo sapiens living in Massachusetts
 - C. all the plant and animal species found in Ohio
 - D. all the flowering plants found in Florida

M. The diagram below shows a milkweed plant and some of the insects that live on it or visit it.



Which term best describes the group of organisms in the diagram?

- A. biosphere
- B. community
- C. habitat
- D. biome

N. A student measured some abiotic factors present in an aquarium in a biology laboratory. Which data did the student most likely record?

- A. the weight and color of each type of scavenger
- B. the number of each type of green plant and each type of snail
- C. the size and number of each species of fish
- D. the temperature and oxygen content of the water

13. Energy stored in organic molecules is passed from producers to consumers. this statement best describes an event in

- A. the process of photosynthesis
- B. natural selection
- C. a food chain
- D. ecological succession