

SECTION 15-1 REVIEW

HISTORY OF EVOLUTIONARY THOUGHT

VOCABULARY REVIEW Define the following terms.

1. evolution _____

2. natural selection _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. If Lamarck’s hypothesis of species modification were true, the children of a person who developed large muscles by lifting weights would be born with
 - a. smaller-than-average muscles.
 - b. normal-sized muscles.
 - c. normal-sized muscles that would become larger only if the children also lifted weights.
 - d. larger-than-average muscles.

- _____ 2. What is the idea developed by Charles Lyell stating that the geologic processes that shaped Earth in the past continue to operate today?
 - a. inheritance of acquired characteristics
 - b. catastrophism
 - c. uniformitarianism
 - d. descent with modification

- _____ 3. Darwin used the phrase “descent with modification” to mean that
 - a. new species descended from preexisting species, and species must be able to change over time.
 - b. organisms that descend from high elevations are modified as they acquire new traits.
 - c. all living things descended from a recent common ancestor on the Galápagos Islands.
 - d. individuals modify their behavior to survive and then pass those modifications on to their descendants.

- _____ 4. According to Darwin’s theory of natural selection,
 - a. individuals are modified by adverse environmental conditions.
 - b. the environment affects all organisms in a population in the same way.
 - c. populations of all organisms grow unchecked under natural conditions.
 - d. organisms that have more favorable traits tend to leave more offspring.

- _____ 5. In an evolutionary sense, an individual organism has high fitness if it
 - a. has a large number of acquired traits.
 - b. can run long distances without becoming exhausted.
 - c. reproduces more successfully than other individuals.
 - d. evolves into another organism rather than becoming extinct.

SHORT ANSWER Answer the questions in the space provided.

1. Why are acquired traits not directly related to the process of evolution? _____

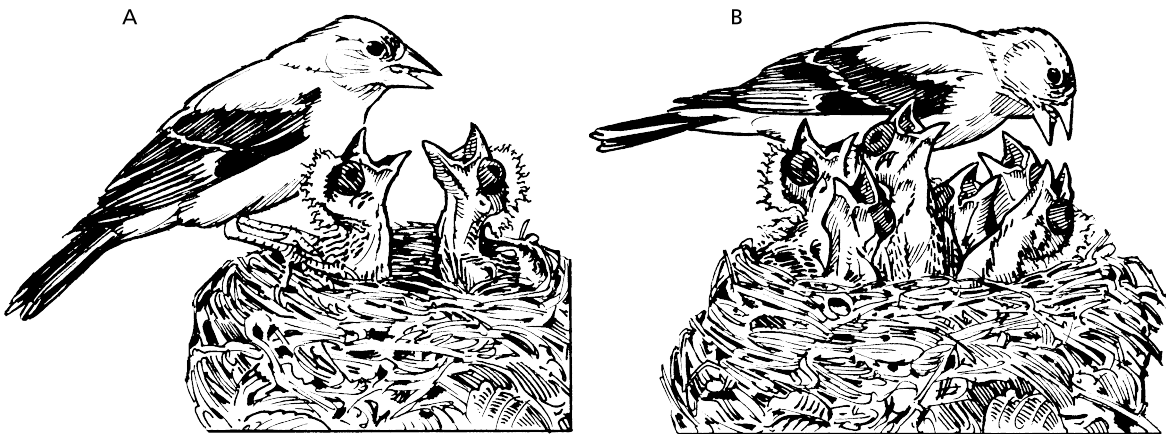
2. How did the ideas of Thomas Malthus influence Darwin's thinking about evolution? _____

3. What is the relationship between evolution and natural selection? _____

4. **Critical Thinking** If Lamarck and Darwin had debated why giraffes have such long necks, how would their explanations have differed? _____

STRUCTURES AND FUNCTIONS Use the figure to answer the following question.

Which of the parent birds shown below (*A* or *B*) appears to have greater fitness? Explain your answer.



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