

SECTION 15-3 REVIEW

EVOLUTION IN PROCESS

VOCABULARY REVIEW Provide one example for each of the following terms.

1. homologous features _____
2. analogous features _____
3. vestigial structure _____
4. convergent evolution _____
5. divergent evolution _____
6. artificial selection _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. The wing of a bat and the foreleg of an alligator are
- a. analogous features.
 - b. homologous features.
 - c. vestigial features.
 - d. artificially selected features.
- _____ 2. Features that were useful to an ancestral organism but are not useful to a modern organism that has them are said to be
- a. analogous.
 - b. homologous.
 - c. vestigial.
 - d. artificially selected.
- _____ 3. Embryological comparisons reveal that
- a. all vertebrate embryos look similar at early stages of development.
 - b. embryos of different vertebrates look more similar as development proceeds.
 - c. rabbit embryos look like adult fish.
 - d. gorillas begin life as fish and then develop into gorillas during an embryonic stage.
- _____ 4. The corresponding changes of two or more species that are closely associated with each other, such as a plant and an animal that pollinates it, are called
- a. adaptive radiation.
 - b. divergent evolution.
 - c. convergent evolution.
 - d. coevolution.
- _____ 5. Artificial selection is used to
- a. speed up the process of divergent evolution.
 - b. slow down the process of convergent evolution.
 - c. produce vestigial structures in selected species of animals.
 - d. study the evolutionary history of organisms that contain similar proteins.

SHORT ANSWER Answer the questions in the space provided.

1. When trying to determine the evolutionary relationship between two species, would a biologist concentrate on homologous features or analogous features? Explain why. _____

2. If an animal has a vestigial structure, what can a biologist infer about the animal's evolutionary history? _____

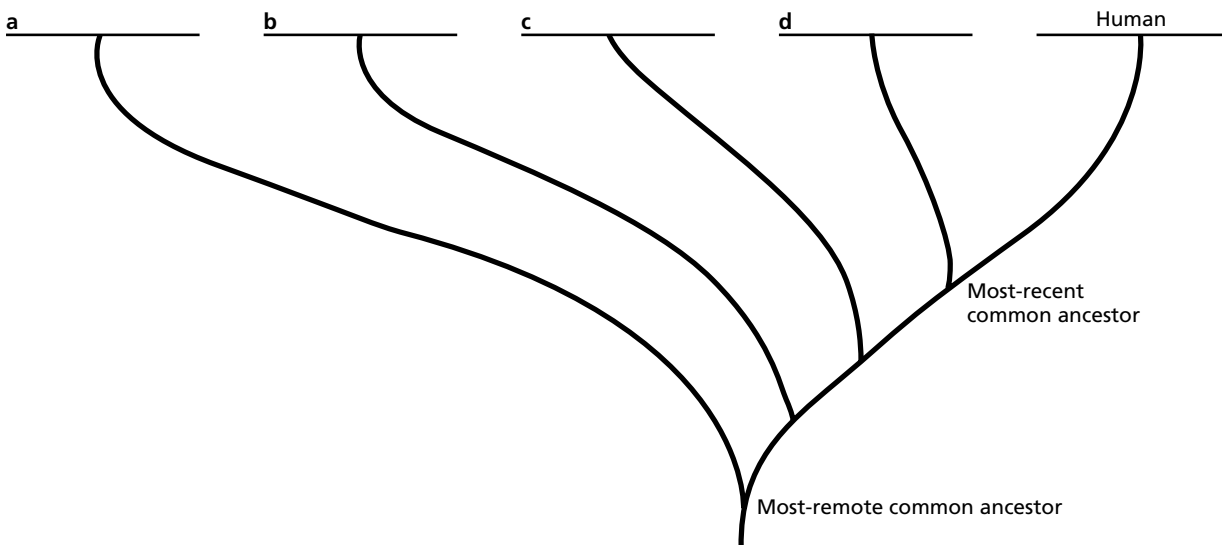
3. How are protein differences between species related to the evolution of those species? _____

4. **Critical Thinking** Why do vestigial structures persist in modern organisms? _____

STRUCTURES AND FUNCTIONS

The table to the right shows the number of amino acid differences in the hemoglobin molecule of several species compared with amino acids in the hemoglobin molecule of humans. Using the data in this table as an indicator of degree of relatedness between species, indicate the position of each species in the evolutionary tree shown below.

Species	Number of amino acid differences
Human	0
Frog	67
Pig	10
Gorilla	1
Horse	26



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