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Study Guide 10.4: Evidence of Evolution

KEY CONCEPT

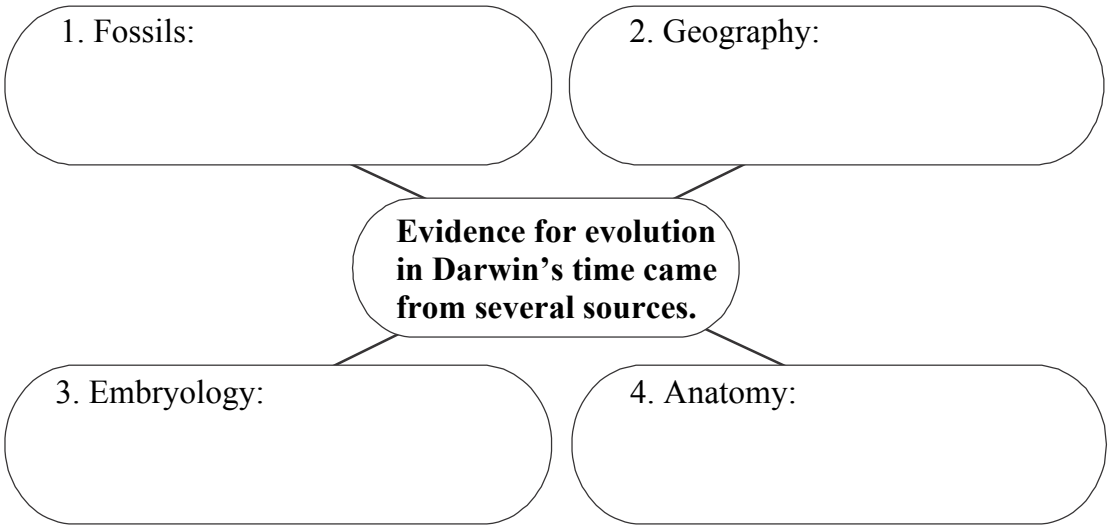
Evidence of common ancestry among species comes from many sources.

VOCABULARY

biogeography	analogous structure
homologous structure	vestigial structure

MAIN IDEA: Evidence for evolution in Darwin's time came from several sources.

In the diagram below, give examples of each type of evidence for evolution.



MAIN IDEA: Structural patterns are clues to the history of a species.

5. Vestigial structures seem to lack any useful function, or are at least no longer used for their original purpose. Give three examples of vestigial structures.

_____

_____

6. Many modern whale species have vestigial pelvic and leg bones. What does this suggest about the ancestry of modern whales?

_____

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Vocabulary Check

homologous structure	analogous structure	vestigial structure

_____ 7. Feature that is similar in structure in different organisms but has different functions

_____ 8. Feature that performs a similar function in different organisms but is not similar in origin

_____ 9. Is *not* evidence of a common ancestor

_____ 10. Remnant of an organ or structure that had a function in an early ancestor

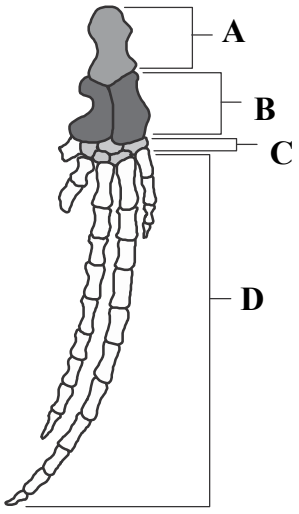
_____ 11. Examples include the wing of a bat and the hand of a human

_____ 12. Examples include the wing of a bird and the wing of an insect

_____ 13. Examples include the wing of an ostrich and the appendix of a human

Sketch It Out

Use Figure 4.4 to sketch a skeleton of a human hand next to the whale fin skeleton shown below. Draw lines to match the groups of bones that are homologous for these two structures.



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Section Quiz 10.4: Evidence of Evolution

Choose the letter of the best answer.

_____ 1. Which of the following is an example of a vestigial structure?
a. the wings of red-tailed hawks
b. the hind limbs of a house cat
c. the fins of a shark
d. the wings of an ostrich

_____ 2. Biogeography is the study of the
a. distribution of organisms around the world.
b. environments around the world.
c. different types of rocks around the world.
d. age of fossils around the world.

_____ 3. What is suggested by the similarity of early embryos of different species of vertebrates?
a. no evolutionary relationship between the groups
b. recent common ancestry
c. similar environments in the past
d. evolution from a distant common ancestor

_____ 4. Some organisms that share a common ancestor have features that have different functions, but similar structures. These are known as
a. vestigial structures.
b. analogous structures.
c. homologous structures.
d. fossil structures.

_____ 5. If an organism has a vestigial structure, that structure likely once had a function in a(n)
a. close relative.
b. early ancestor.
c. unrelated organism.
d. embryological stage

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PowerNotes 10.4: Evidence of Evolution

Main Idea
Evidence of common ancestry among species comes from many sources.

Fossils:

Geography:

Embryology:

Anatomy:

Homologous structures:

Vestigial structures:

Analogous structures are not evidence of a recent common ancestor.

Analogous structures: