

CHAPTER 12 STUDY GUIDE

EVOLUTION

Section Evidence for Evolution

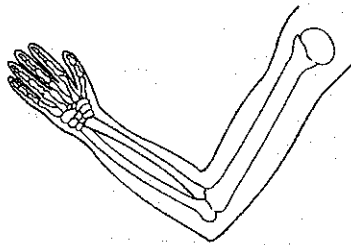
In your textbook, read about fossil evidence.

For each statement below, write true or false.

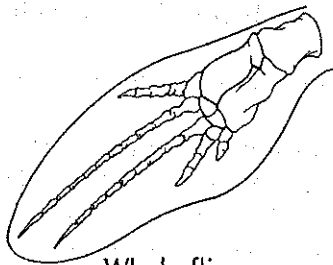
- _____ 1. A fossil usually contains only the hard parts of an organism.
- _____ 2. The chemical makeup of an organism does not change when it fossilizes.
- _____ 3. Most organisms fossilized in older layers of sedimentary rock are more complex in body structure than those fossilized in younger layers.
- _____ 4. The fossil record does not show every step in the evolution of life forms.
- _____ 5. Layers of rock can often be dated by the types of fossils they contain.

In your textbook, read about evidence from anatomy.

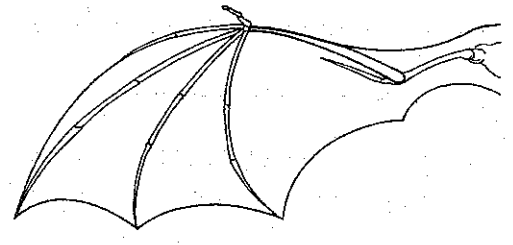
Study the diagrams of the forelimbs of a human, a whale, and a bat. Then, answer the questions.



Human forearm



Whale flipper



Bat wing

6. Which bones are homologous? Shade them.
7. Do the forelimbs of the human, the whale, and the bat function in similar ways? Explain.

Complete the table by checking the correct column for each structure.

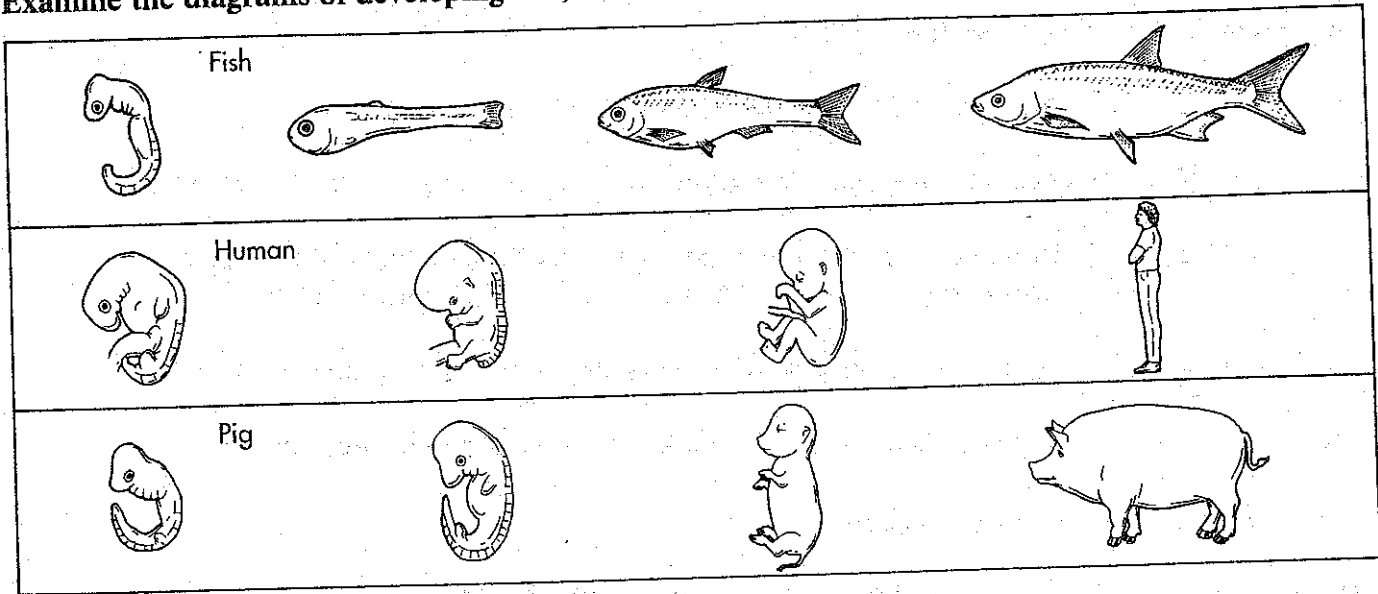
Anatomical Evidence of Relationships		
Structure	Homologous Parts	Vestigial Organs
8. Human ear muscles		
9. Dog forelimb and human forelimb		
10. Human appendix and tailbone		
11. Python leg bones		

EVOLUTION

Section Evidence for Evolution continued

In your textbook, read about evidence from embryology and biochemistry.

Examine the diagrams of developing fish, human, and pig embryos. Then, answer the questions.



12. Which of the three embryos has a segmented backbone, gill structure, and a tail?

13. What is the biochemical evidence that supports the hypothesis that humans and chimpanzees are more closely related than are humans and dogs?

In your textbook, read about genetic evidence and direct observation.

Answer the following.

14. Explain the causes of change occurring constantly over time in any population.

15. How have humans used the potential for change in organisms?

16. Identify direct evidence and indirect evidence of evolution having occurred.

