

CHAPTER 21 GUIDED NOTES: THE EVIDENCE FOR EVOLUTION

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1. What is the primary mechanism that is responsible for evolutionary change?

2. How did Darwin's observations of the finches of the Galapagos islands influence the development of his theory of evolution by natural selection?

3. What was the driving force behind the evolution of the 14 species of finches on the Galapagos?

4. What three conditions must be met in nature to drive natural selection?
 - a. _____
 - b. _____
 - c. _____
5. Briefly describe how the research on beak size of medium ground finches (undertaken by Drs. Peter and Rosemary Grant) offers supportive evidence for evolution by natural selection.

6. Briefly explain industrial melanism and describe how this phenomenon supports the principle of evolution by natural selection.

7. List and briefly describe two cases in which artificial selection has created substantial change in a species.

a. _____

b. _____

8. How does artificial selection provide support for the principle of evolution by natural selection?

9. List and briefly describe two cases in which the fossil record supports the principle of evolution by natural selection.

a. _____

b. _____

10. Explain what is meant by homologous structures and describe how they serve as support for the principle of evolution by natural selection.

11. Besides homologous structures, list and briefly explain three other types of anatomical evidence that supports the principle of evolution by natural selection.

a. _____

b. _____

c. _____

12. Briefly explain how the molecular record supports the principle of evolution by natural selection.

13. Explain the term “convergent evolution”.

14. Describe how the marsupial-placental convergence supports the principle of evolution by natural selection.

15. To summarize this chapter, list 4 major lines of evidence that support evolution by natural selection.

- a. _____
- b. _____
- c. _____
- d. _____

BONUS:

In three words or fewer, summarize the principle of evolution by natural selection.
