

Section 16–3 The Process of Speciation (pages 404–410)

Key Concepts

- What factors are involved in the formation of new species?
- Describe the process of speciation in the Galápagos finches.

Introduction (page 404)

1. What is speciation? _____

Isolating Mechanisms (pages 404–405)

2. Is the following sentence true or false? Individuals in different species can have the same gene pool. _____
3. What does it mean for two species to be reproductively isolated from each other?

4. What must happen in order for new species to evolve? _____

5. List three ways that reproductive isolation occurs.
- a. _____ c. _____
- b. _____
6. When does behavioral isolation occur? _____

7. Is the following sentence true or false? Eastern and Western meadowlarks are an example of behavioral isolation. _____
8. When does geographic isolation occur? _____

9. Abert and Kaibab squirrels in the Southwest are an example of _____ isolation.
10. Is the following sentence true or false? Geographic barriers guarantee the formation of new species. _____
11. What is an example of temporal isolation? _____

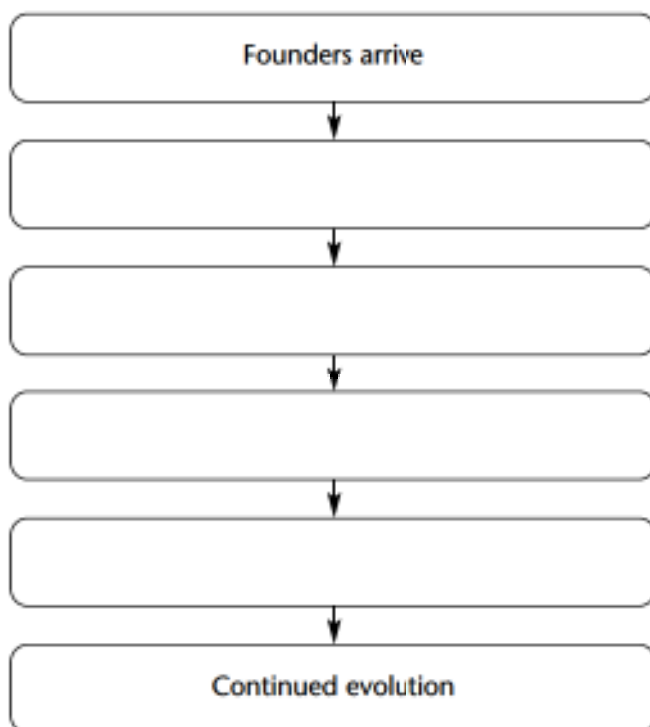
Testing Natural Selection in Nature (pages 406–407)

12. Is the following sentence true or false? The basic mechanisms of evolutionary change cannot be observed in nature. _____

13. Circle the letter of each hypothesis about the evolution of Galápagos finches that was tested by the Grants.
- The finches' beak size and shape has enough inheritable variation to provide raw material for natural selection.
 - The different finch species are the descendants of a common mainland ancestor.
 - Differences in the finches' beak size and shape produce differences in fitness that cause natural selection to occur.
 - The evolution of the finches is proceeding slowly and gradually.

Speciation in Darwin's Finches (pages 408–409)

14. Complete the flowchart to show how speciation probably occurred in the Galápagos finches.



15. How could differences in beak size lead to reproductive isolation? _____
- _____
- _____

Studying Evolution Since Darwin (page 410)

16. Why is the study of evolution important? _____
- _____
- _____