

Name: _____

Reading 16-3 : The Process of Speciation

1. Define species: _____
2. As new species evolve, populations become reproductively _____ from each other.
3. What stops an eastern meadowlark from breeding with a western meadowlark? _____
4. Give an example (or description) of geographic isolation: _____
5. What are the two squirrel species that exist on opposite sides of the Colorado river and what is their color?
Squirrel 1 _____ color: _____
Squirrel 2 _____ color: _____
6. When two species cannot reproduce at the same time, it is called _____ isolation.
7. Examine Figure 16-3 and identify what each of the following finches eats:



Testing Natural Selection in Nature

8. Once Darwin discovered that the birds were all finches, he hypothesized that they descended from a _____
9. Darwin's hypothesis relied on two testable assumptions:
 - 1) There must be heritable _____ in those traits
 - 2) Differences in shape must produce differences in _____

Peter and Rosemary Grant tested the hypothesis. Complete each statement about their observations.

10. The Grants measured and [identified / tagged] as many birds as possible.
11. They recorded which birds [died / migrated] and which succeeded in breeding.
12. The purpose of measuring the birds was to show that they have [fitness / variation]
13. During a [season / drought], differences in beak size can mean the difference between life and death.
14. A feeding [generalist / specialist] is a type of bird that chooses food based on what its beak handles best.
16. Finches with [large / small] beaks were most likely to survive.
17. The next generation of finches had [larger / smaller] beaks.

Speciation in Darwin's Finches

19. Where did the first finches on the islands come from? _____
These first finches were called _____
20. Over time, populations on the island became _____ to their local environments.
21. How do finches choose their mates? _____
22. Most specialized birds have less _____ for food.
23. How many different finch species can be found on the Galapagos? _____

Studying Evolution Since Darwin

24. New data from what three scientific fields supports the theory of evolution by natural selection?

25. The Grants observed changes in beak size, but they didn't actually see what? _____
26. Define SCIENTIFIC THEORY: _____
