

Name _____

AP Biology
TEXT: *Biology, Campbell and Reece*
7th Edition
Chapter 24

Evolution: The Origin of Species
Thematic Review Guide

1. Define the term species.

2. How do the patterns of speciation differ?

a. anagenesis _____

b. cladogenesis _____

3. What is thought to be essential for the formation of distinct species rather than a continuum from one form of life to another? _____

4. Define and give an example for each of the following barriers that cause isolation.

a. prezygotic barriers _____

b. habitat Isolation _____

c. behavioral Isolation _____

d. temporal Isolation _____

e. mechanical isolation _____

f. gamete isolation _____

g. postzygotic barriers _____

h. hybrid inviability _____

i. hybrid sterility _____

5. Define the ***modes of speciation***.

a. allopatric speciation _____

b. sympatric speciation _____

6. How does the antelope squirrel demonstrate allopatric speciation?

7. What does the concept of “ring species” demonstrate? Give an example.

8. How do island chains encourage adaptive radiation?

9. What are the two intrinsic factors that result in sympatric speciation?

10. How can polyploidy lead to speciation?

11. Why are allopolyploid hybrids usually sterile?

12. What did Hugo de Vries discover in the evening primrose?

13. What is thought to be the two factors demonstrating sympatric speciation in the cichlids of Lake Victoria, in East Africa? _____

14. Compare gradualism and punctuated equilibrium.

15. How does microevolution differ from macroevolution?

16. Identify a couple of factors that could lead to the pattern of evolution we see as divergence? _____

17. What does the Mollusk eye demonstrate?

18. What does the evolution of the horse demonstrate?

19. Define each of the following evolutionary trends:

a. convergent evolution _____

b. analogous traits _____

c. parallel evolution _____

d. co-evolution _____

20. In the margins of one of his notebooks, Darwin scrawled a note to remind himself never to apply the terms higher and lower to species. It was, and still is, very common for people to think of some species or species groups as more or less evolved than others. This stems from a notion of evolutionary "progress." Is there such a thing as evolutionary progress? Why or why not?