

Name \_\_\_\_\_

**AP Biology**  
**TEXT: *Biology, Campbell and Reece***  
**7<sup>th</sup> Edition**  
**Chapter 24**

**Evolution: The Origin of Species**  
**Thematic Review Guide**

1. Define the term species.

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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? \_\_\_\_\_

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

a. prezygotic barriers \_\_\_\_\_

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b. habitat Isolation \_\_\_\_\_

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c. behavioral Isolation \_\_\_\_\_

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d. temporal Isolation \_\_\_\_\_

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e. mechanical isolation \_\_\_\_\_

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f. gamete isolation \_\_\_\_\_

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g. postzygotic barriers \_\_\_\_\_

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h. hybrid inviability \_\_\_\_\_

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i. hybrid sterility \_\_\_\_\_

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

a. allopatric speciation \_\_\_\_\_

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b. sympatric speciation \_\_\_\_\_

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6. How does the antelope squirrel demonstrate allopatric speciation?

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

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8. How do island chains encourage adaptive radiation?

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

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10. How can polyploidy lead to speciation?

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11. Why are allopolyploid hybrids usually sterile?

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

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

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14. Compare gradualism and punctuated equilibrium.

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15. How does microevolution differ from macroevolution?

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

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17. What does the Mollusk eye demonstrate?

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18. What does the evolution of the horse demonstrate?

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19. Define each of the following evolutionary trends:

a. convergent evolution \_\_\_\_\_

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b. analogous traits \_\_\_\_\_

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c. parallel evolution \_\_\_\_\_

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d. co-evolution \_\_\_\_\_

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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?