

## Chapter 22 – The Origin of Species



1. Define the term **species**. \_\_\_\_\_

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2. What conditions are thought to be essential for the formation of distinct species?

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3. Define and give an example for each of the following mechanisms that produce reproductive isolation:

a. **Prezygotic Mechanisms** \_\_\_\_\_

• **Geographic isolation** \_\_\_\_\_

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• **Ecological isolation** \_\_\_\_\_

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• **Temporal isolation** \_\_\_\_\_

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• **Behavioral isolation** \_\_\_\_\_

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• **Mechanical isolation** \_\_\_\_\_

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• **Gamete isolation** \_\_\_\_\_

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b. **Postzygotic Mechanisms** \_\_\_\_\_

- **Hybrid inviability** \_\_\_\_\_

- **Hybrid sterility** \_\_\_\_\_

4. Define these modes of speciation:

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

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

5. How do island chains encourage adaptive radiation?

6. How can polyploidy lead to speciation?

7. Define and compare **gradualism** and **punctuated equilibrium**.