**Ch. 24: The Origin of Species**

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| Questions/Learning Criteria | Answers | |
| 1. What is the difference between microevolution and macroevolution? | **MICROEVOLUTION**:  **MACROEVOLUTION**: | |
| 1. What is **SPECIATION**? |  | |
| 1. What is the biological definition of a **SPECIES**? |  | |
| 1. Are there other definitions of a species? | 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – by body shape, size, and other structural features 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – niche/role in community 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – share common ancestry, branch on tree of life | |
| 1. How do new species originate? | * Populations must become \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (geographically and/or reproductively) and then evolve \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * Isolation may be allopatric or sympatric | |
| 1. What is **REPRODUCTIVE ISOLATION?** |  | |
| 1. Compare the 2 main modes of speciation | **ALLOPATRIC SPECIATION**  **“*other country*”** | **SYMPATRIC SPECIATION**  **“*same country*”** |
|  | * Geographically \_\_\_\_\_\_\_\_\_\_ populations * Caused by geologic events or processes * Evolves by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * **Ex:** Squirrels on N/S rims of * Grand Canyon   *Draw a picture!* | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ populations within home range * Gene flow between subpopulations blocked by: * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * \_\_\_\_\_\_\_\_\_\_\_\_\_ selection * \_\_\_\_\_\_\_\_\_\_\_ differentiation   **Ex:** polyploidy in crops  (oats, cotton, potatoes, wheat)  *Draw a picture!* |
| 1. Allopatric speciation can lead to **ADAPTIVE RADIATION** | Adaptive Radiation is when \_\_\_\_\_\_\_\_\_\_\_\_\_ new species arise from a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ common ancestor  Occurs when:   * A few organisms make way to new, distant areas (**allopatric speciation**) * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪 new \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for survivors | |
| 1. Compare the types of **REPRODUCTIVE BARRIERS?** | **PREZYGOTIC Reproductive Barriers** | **POSTZYGOTIC Reproductive Barriers** |
| Impede \_\_\_\_\_\_\_/ \_\_\_\_\_\_\_\_\_\_\_\_\_ | Prevent hybrid zygote from \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Types | |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ isolation 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ isolation 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ isolation 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ isolation 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ isolation 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ isolation | 1. Reduced hybrid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Reduced hybrid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Hybrid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. What are **HYBRID ZONES**? | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reproductive barriers * Possible outcomes: | |
| 1. What are rates (tempos) of evolution? |  |  |
| * Common ancestor * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   outil_bleu09_img02 | * Long period of \_\_\_\_\_\_\_\_\_\_\_\_ punctuated by short bursts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   outil_bleu09_img02 |
| *24_17SpeciationTempo-L.jpgWhich is it?* | |

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