Evolution Study Guide

**Define the following vocabulary:**

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| 1. Charles Darwin | **Developed the theory of evolution** |
| 2. Mutation | **change in DNA. May be positive, negative or neutral** |
| 3. Variation | **different traits of a population. Can be changed through mutations or meiosis (reproduction)** |
| 4. Population | **same species in a specific area or location** |
| 5. Adaptation | **Beneficial variation that increases the chance of survival** |
| 6. Natural Selection | **survival and reproduction in a population based on their adaptations/ traits that help them survive in an environment** |
| 7. Galapagos Islands | **where Darwin noticed finches which led him to the theory of evolution** |
| 8. Trait | **characteristic that is in the DNA and can be passed down to offspring** |
| 9. Extinction | **when a species is no longer living on the face of the Earth** |
| 10. Evolution | **change in population over time** |
| 11. Fossil |  |
| 12. Fossil Record |  |
| 13. Relative Dating |  |
| 14. Radiometric (radioactive dating) |  |
| 15. Early development/Embryology as evidence of evolution |  |
| 16. Homologous Structures/anatomical structures as evidence of evolution |  |
| 17. Distribution of organisms as evidence of evolution  |  |
| 18. Genetic information (DNA analysis) as evidence for evolution |  |
| 19. Isolation and its role in producing new species |  |

**Answer the following questions:**

1. Identify the 6 lines of evidence for evolution and explain how they are evidence for evolution
2. Identify two ways variations can be introduced into a population?
3. Explain how different factors in the environment can bring about changes in the population.
4. Describe how mutations, variations, adaptations, natural selection, and extinction cause evolution to occur.
5. Explain why natural selection can only act on traits that can be inherited and NOT acquired traits.
6. Identify examples of homologous structures and explain how they are evidence for evolution.

**Be Ready to:**

1. Recognize the different types of evidence of evolution based on a description or an image.
2. Apply your understanding of evolution to examples
3. Analyze relationships using evidence (similar to cytochrome C class activity)

**Resources:**

Brain Pop videos: Natural selection, Charles Darwin

Stated Clearly: “Evolution”, “Natural Selection”, and “Evidence for Evolution”