**Biology**

**Standard 10: The Evolution of Life**

**Study Guide**

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| 1. | Explain Darwin's theory of natural selection. Be sure to include the animals he studied, what he found and his conclusion.   |

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| 2. | The Miller-Urey experiment and the meteorite hypothesis both suggest how the molecules on can support life might have appeared on Earth. What is the main difference between these two hypotheses?  |
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| 3. | If you hiked in a local grassy area, and noticed that all of the wild field mice have brown coats. What could you conclude? (Hint: think of adaptations and natural selection) |
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| 4. | Today, rose plants have thorns on their branches. These thorns help protect the plant from being eaten by animals. If there are no longer any animals that eat rose plants, what might be the result of evolution in the rose plant after a million years? |

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| 5. | Evidence of Evolution comes from diverse sources. List 4 and give 1 example of each. 1. . Example:
2. . Example:
3. . Example:
4. . Example:
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1. What might you conclude from the fact that embryos of many developing animals, including

humans, are so similar?

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| 7. | Give an example of a vestigial structure and explain how vestigial structures are significant to evolution.  |
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| 8. | What is the difference between genetic drift and geographic isolation?  |

9. The similarity in forelimb structure of humans, bats, and moles is evidence of what?

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| 10. | The term homologous comes from the Greek word homos, which means “the same.” Explain how this meaning relates to homologous structures.     |
| 11. | Define speciation. Describe the 3 examples that might cause the isolation of living things before speciation to occur.  |

12. What is the difference between a species and a population?

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| 13. | Describe the evolution of the human skull, jaw, and brain.   |
| 14. | Describe what each of the following lobes of the brain are responsible for.  |  |
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| A. | Frontal:  |
| B. | Parietal:  |
| C. | Occipital:  |
| D. | Temporal: |

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