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**Unit 1 Map – Evolution (Micro and Macro)**

AP Biology, 2018-2019

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| **Topic** | **Learning Target** | **Checkpoint Score** (%) | **Test Score** (%) |
| 1. Evolution Basics and Types of Natural Selection | A. I can identify and provide examples of the characteristics of life. The characteristics of life are the traits that something must show to be considered a living organism. For example, all living things are made of cells.  |  |  |
| B. I can describe the theory of evolution (i.e. the idea that groups of organisms change over time) and Charles Darwin’s model for the cause of evolution (i.e. natural selection). |
| C. I can describe and analyze pieces of evidence in support of the theory of evolution.  |
| D. I can define and provide examples of the types of natural selection.  |
| 2. Genetic Variation in Natural Selection and Hardy Weinberg Equilibrium | E. I can describe the basic structure of the DNA molecule.  |  |  |
| F. I can identify the four ways to increase genetic variation (i.e. changes in the DNA sequences in a population  |
| G. can explain why genetic variation is important as “fuel” for natural selection.  |
| H. I can describe the conditions that must be met for a population to stop evolving (i.e. be in Hardy Weinberg Equilibrium).  |
| I. I can use the Hardy Weinberg equations to predict future genetic frequencies in a population.  |
| 3. Macroevolution, Speciation, and the Origin of Life | J. I can describe the “isolating mechanism” (ex: behavioral isolation) that can lead to speciation between two populations of organisms. |  |  |
| K. I can explain how to determine if speciation has taken place. (If members of two populations cannot interbreed and produce fertile offspring, they are no longer in the same species.)  |
| L. I can describe the differences between three patterns of macroevolution—divergent evolution, convergent evolution, and coevolution—and identify examples of each.  |
| M. I can describe the differences between the two models of the rate of macroevolution—gradualism and punctuated equilibrium—and show each of these models using graphs and phylogenetic trees.  |
| N. I can describe the conditions present on early Earth.  |
| O. I can explain how Miller and Urey’s experiment demonstrated the formation of simple organic molecules under early Earth conditions.  |
| P. I can describe the RNA World Hypothesis.  |
| Q. I can identify major events in the history of life (ex: the appearance of the first multicellular organisms).  |
| 4. Classification and Biodiversity | R. I can describe the conditions present on early Earth.  |  |  |
| S. I can explain how Miller and Urey’s experiment demonstrated the formation of simple organic molecules under early Earth conditions.  |
| T. I can describe the RNA World Hypothesis.  |
| U. I can identify major events in the history of life (ex: the appearance of the first multicellular organisms).  |