**Evolution & Taxonomy Reading Guide Name:**

15-1

1. Define evolution.
2. Explain Darwin's observations.

15-2

1. How did Hutton and Lyell's understanding of geology influence Darwin?
2. What is an adaptation?
3. How did Lamarck explain evolution? What are the major problems with his explanation?
4. Which questions regarding the idea of population growth were important to Darwin's explanation of evolutionary change?

15-3

1. What is genetic variation?
2. Explain artificial selection.
3. Describe natural selection.
4. Define survival of the fittest.
5. What is meant by 'descent with modification'?
6. Explain four pieces of evidence used to support the theory of evolution.

16-1

1. Explain the terms gene, allele, and gene pool.
2. In genetic terms, what is evolution?
3. What are the sources of genetic variation?
4. Compare a single-gene trait vs a polygenic trait

16-2

1. Draw and explain graphs for directional selection, stabilizing selection, and disruptive selection.
2. What is genetic drift? How does it affect the gene pool?

16-3

1. Define speciation
2. How can two gene pools become separated?
3. Compare Darwin's finches in terms of their food source and feeding adaptations. How could these beaks have resulted from natural selection?
4. How did speciation in Darwin's finches occur?

17-1

1. What is a fossil?

17-4

1. What is adaptive radiation? (leads to divergent evolution over time)
2. What is convergent evolution? Give an example.
3. Explain the theory of punctuated equilibrium. How is it different from the theory of gradualism? Draw examples of each.

18-1

1. What is taxonomy?
2. What are the two parts of a name used in binomial nomenclature?
3. What are the seven levels of Linnaeus' system of classification?

18-2

1. What is meant by evolutionary classification?
2. Explain how similarities in DNA can be used to determine classification and evolutionary relationships.
3. What is a molecular clock?

18-3

1. What are the three domains?
2. What are the six kingdoms?
3. Draw a table showing the classification of living things.