**Chapter 15 Outline**

Answer each question and define or explain each concept

1. What did Darwin do on the Beagle?
2. What did Darwin notice about the animals in the Galapagos?
3. What did Darwin hypothesize?
4. What are the four principles of natural selection?
5. Darwin’s theory of natural selection is not synonymous with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. Natural selection is a way of:
7. Evidence for Evolution
   1. The Fossil Record
      1. Derived Traits:
      2. Ancestral Traits:
      3. Homologous Structures
      4. Vestigial Structures
      5. Analogous Structures
   2. Embryology
   3. Comparative Biochemistry
   4. Geographic Distribution
8. Adaptations
   1. Fitness
   2. Camouflage
   3. Mimicry
   4. Consequences
9. Mechanisms of Evolution
   1. Population Genetics
      1. Hardy-Weinberg
         1. P2
         2. 2pq =
         3. Q2=
      2. Genetic Drift
      3. Founder Effect
      4. Bottleneck
      5. Gene Flow
      6. Non-Random Mating
10. Natural Selection Types (explain and draw graphs)
    1. Stabilizing Selection
    2. Directional Selection
    3. Disruptive Selection
    4. Sexual Selection
    5. Pre-Zygotic Selection
    6. Post-Zygotic Selection
11. Speciation
    1. Allopatric Speciation
    2. Sympatric Speciation
    3. Adaptive Radiation
    4. Coevolutuion
    5. Convergent Evolution
    6. Rate of Speciation
       1. Gradualism
       2. Punctuated Equilibrium