**Test Date:** Monday May 8, 2017 (3rd period) / Tuesday May 9, 2017 (5th period)

**Chapter 16 Study Guide: Darwin’s Theory of Evolution**

* **16.1: Darwin’s Voyage of Discovery**
  + **Vocabulary**
    - Evolution
    - Biological evolution
      * Convergent evolution
      * Divergent evolution
    - Fossil
  + **Objectives**
    - State Charles Darwin’s contribution to science.
    - Describe the three patterns of biodiversity noted by Darwin.
    - Differentiate between convergent and divergent evolution.
* **16.2: Ideas That Shaped Darwin’s Thinking**
  + **Vocabulary**
    - Artificial selection
  + **Objectives**
    - Identify conclusions drawn by Hutton and Lyell about Earth’s history.
    - Describe Lamarck’s hypothesis of evolution.
    - Describe Malthus’s view of population growth.
    - Explain the role of inherited variation in artificial selection.
* **16.3: Darwin Presents His Case**
  + **Vocabulary**
    - Adaption
    - Fitness
    - Natural selection
  + **Objectives**
    - Describe the conditions under which natural selection occurs.
    - Explain the principle of common descent.
* **16.4: Evidence of Evolution**
  + **Vocabulary**
    - Biogeography
    - Homologous structure
    - Analogous structure
    - Vestigial structure
  + **Objectives** 
    - Explain how geologic distribution of species relates to their evolutionary history.
    - Explain how fossils and the fossil record document the sescent of modern species ancient ancestors.
    - Describe what homologous structures and embryology suggest about the process of evolutionary change.
    - Explain how molecular evidence can be used to trace the process of evolution.
    - Explain the results of the Grants’ investigation of adaptation in Galapagos finches.