

# AP Biology Summer Assignment

Since Biology is the study of life and evolution explains the unity and diversity of life we see on Earth you will focus on evolution for your summer assignment. Your summer assignment is in two parts. Your assignment is due on the first day of class.

**Part I: you will be refreshing your memory on some evolutionary topics by reading the evolution chapters in your textbook (9<sup>th</sup> grade textbook is fine, online textbook Unit 4 <http://cnx.org/contents/185cbf87-c72e-48f5-b51e-f14f21b5eabd@9.85:3/Biology> or AP Biology Cliff Notes 5<sup>th</sup> edition ISBN-13: 978-0544784680 OR ISBN-10: 0544784685) and answer the following questions.**

1. **Describe** (in two to three sentences for each individual) the philosophies and theories related to evolution of the following: Aristotle, Hutton, Cuvier, Lyell, Malthus, Lamarck, Wallace and Linnaeus. **Discuss** how these ideas influenced Charles Darwin.
2. **Describe** the observations and the inferences Darwin made that led him to propose natural selection as a mechanism for evolutionary change.
3. **Explain** how the following types of evidence support Darwin's theory of evolution: homology, biogeography and the fossil record.
4. **Describe** the conditions on the early Earth that made the origin of life possible.
5. **Create a table to identify** the major events in the history of life (include the 4 major geologic eras and the following periods: Cambrian, Permian, cretaceous, tertiary).

**Part II: Read one of the following books and write a review of the book. In your review, relate your book to evolution and another major topic in biology. We will discussing the books in class at several different points in the fall.**

## Book Choices:

*The Serengeti Rules* by Sean B. Carroll (<https://www.theguardian.com/books/2016/mar/23/the-serengeti-rules-sean-b-carroll-review>)

*Your Inner Fish: A Journey into the 3.5 Billion Year History of the Human Body* by Neil Shubin (<https://www.theguardian.com/books/2008/feb/10/shopping.scienceandnature>)

*Survival of the Sickest The Surprising Connections Between Disease and Longevity* by Dr. Sharon Moalem (<https://www.publishersweekly.com/978-0-06-088965-4> )

*A Crack in Creation Gene Editing and the Unthinkable Power to Control Evolution* by Jennifer Doudna and Samuel Sternberg ([https://www.bionews.org.uk/page\\_96144](https://www.bionews.org.uk/page_96144))

*I Contain Multitudes The Microbes Within us and a Grander View of Life* by Ed Young (<https://www.nytimes.com/2016/08/21/books/review/i-contain-multitudes-ed-yong.html>)