

*Summer 2017 Reading &*

*Preparatory Exercises*

*For*

*AP Biology*

From the College Board website:

AP Biology should include the topics regularly covered in a college biology course for majors. The textbooks used for AP Biology should be those used by college biology majors and the labs done by AP students must be the equivalent of those done by college students.

The AP Biology course is designed to be taken by students after the successful completion of a first course in high school biology and one in high school chemistry\*. It aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology.

\*If you have not taken a biology class already, please understand that more of your daily time will be required to keep up with the level of the material in this class than in other AP science classes. This is because you have taken introductory classes for most of those subjects before taking the AP version of the class. This summer it is in your best interest to learn the background, basic biology material. Your level of preparation will be determined by taking online quizzes after reviewing basic biology material on your own. You will be expected to pass many of the online quizzes in one or two attempts, but will be sent more details about which quizzes you will not be expected to pass during this summer preparation.

**BOOKS: Principle of Life, 2nd edition**

**ISBN: 9781464109478**

**Freeman/Worth**

**Your Inner Fish Neil Shubin 2009 (if you have trouble getting this book, please email Dr Smith before July 15<sup>th</sup>)**

*Some basic information to GET you started*

These are the *Big Ideas* of the new AP biology curriculum:

- 1: The process of evolution drives the diversity and unity of life.
- 2: Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis.
- 3: Living systems store, retrieve, transmit and respond to information essential to life processes.
- 4: Biological systems interact, and these systems and their interactions possess complex properties.

Found on WIKIPEDIA: Among the most important topics are five unifying principles that can be said to be the fundamental axioms of modern biology:<sup>[2]</sup>

1. [Cells](#) are the basic unit of life
2. New species and inherited traits are the product of [evolution](#)
3. [Genes](#) are the basic unit of [heredity](#)
4. An organism [regulates](#) its internal environment to maintain a stable and constant condition
5. Living organisms consume and transform [energy](#).

## SUMMER REQUIREMENTS:

1. Read these chapters (listed below) from the Principles of Life textbook as preparation for the school year. The FLINNprep quizzes that you take will reinforce what the chapters cover and will test your foundational knowledge for the school year.
  - a. Chapter 2- chemistry and energy of life
  - b. Chapter 3-nucleic acids, proteins, and enzymes
  - c. Chapter 4- cells
  - d. Chapter 7-cell cycle, cell division
  - e. Chapter 15 processes of evolution
2. In a few weeks, you will be sent a link and a passcode for the FLINNprep AP Biology preparatory review quiz set. You will also be sent a list of requirements for how to use this website to learn or review biology basics over the summer. A predetermined number of these quizzes need to be completed before the first day of class (the required set will be emailed early in Summer- the FLINNprep site is changing so I need to verify which quizzes align with the summer foundational knowledge. It is recommended that you attempt the other quizzes before school begins.

**3. The objective packets for the first 2 chapters of the school year will be made available during the week before school begins. Please complete these packets of questions about evolution before class begins. This will be the first unit we cover together as a class. (One of the chapters is from the summer reading (15) and the other is related to evolution)**

Writing plays a big part of AP Biology so take detailed notes or answer the questions in the chapters to practice using the relevant biology terms. Using the correct language is an important skill for this class but also for the AP exam.