

# AP Biology Summer Assignment

## Hello! Welcome to AP Biology!

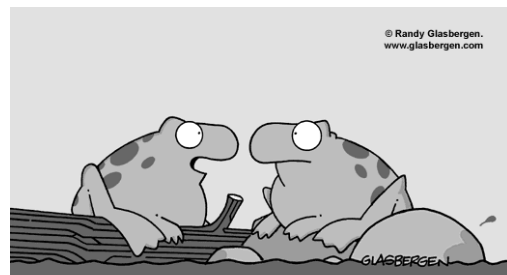
The two main goals of AP Biology are to help you develop a conceptual framework for modern biology and to gain a deeper appreciation of science as a process. Because of the rapid pace of discovery in the life sciences, we have to start early, and our primary emphasis is on developing an understanding of unifying concepts that connect the major topics of biology. The AP Biology Curriculum centers around the four Big Ideas and you will need to not only know these but also understand how they all relate:

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

(see college board site for details of an AP biology course: <https://apstudent.collegeboard.org/apcourse/ap-biology>)

## What to do before the first day of school:

1. AP Biology was designed by a select group of college professors and high school science teachers to be equivalent to an introductory college biology course. Visit the below College Board site to explore what an AP Biology course is like, or watch the attached video links to get an idea of the course. (Get to know either Bozeman science or Crash Course biology videos, as they are a great study tool and both on YouTube):
  - <https://paul-andersen.squarespace.com/biology>
  - <http://www.bozemanscience.com/ap-biology/>
  - <https://apstudent.collegeboard.org/exploreap?affiliateId=apcentral&bannerId=exploreap1>
2. **Campbell's Biology (10<sup>th</sup> edition) textbook reading and reading guides:** Get comfortable with your textbook, you will be using it a lot. I know it's big and overwhelming, however, we have quite a bit of material to cover this year! You will be reviewing some science basics in Ch 1, as well as reviewing the first half of ecology in Ch 51-53.
  - Read Chapter 1 in Campbell *Biology* book, and complete the Reading Guide for Ch. 1
  - Read Chapter 51 in Campbell *Biology* book, and complete the reading guide for Ch. 51
  - Read Chapter 52 in Campbell *Biology* book, and complete the reading guide for Ch. 52
  - Read Chapter 53 in Campbell *Biology* book, and complete the reading guide for Ch. 53
3. **Science Skills Review Packet:** Because it is assumed that you have basic biology and chemistry knowledge before starting AP biology, this packet will help you review some of those skills! Interpreting and graphing data is a key skill needed, however we will cover this in the AP summer boot camp. Vocabulary in this course can be a stumbling block, you need to take some time to review the scientific Latin/Greek roots that form many of our scientific terms.
4. **Cricket lab:** Lab work is a BIG part of this course. Your first lab will be an online simulation to help you review the scientific method and learn to write a detailed lab report. Please use both the "**Cricket Lab Report Directions**" and the "**Scientific Method Lab Report rubric**" to create a lab report write up on the experiment. Have a completed, hand-written first draft in class the **first day**.
  - [http://webapp.gccaz.edu/academic/biology/scientific\\_method/](http://webapp.gccaz.edu/academic/biology/scientific_method/)
  - must be hand-written
5. **Safety Contract:** Read and sign the student safety contract. Have a parent or guardian sign as well.
6. **(Highly suggested but not mandatory)** If you can, purchase a copy of an AP biology study book. Good study books include Princeton Review Cracking the AP Biology Exam, Barron's AP Biology, CliffNotes AP Biology and 5 Steps to a 5 by Mark Anestis (Amazon or your local book store). I HIGHLY recommend the Barron's book, it is fantastic and many of my students preferred it this past year. **It must be a 2015 or NEWER addition because the course was redesigned recently.**



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"Looks aren't everything. It's what's inside you that really matters. A biology teacher told me that."

I truly am looking forward to working with you next year! Don't procrastinate on this assignment but don't let it keep you from having a wonderful summer!!! I look forward to a great 2018-2019 school year!! -Ms. Ortiz

DO NOT PROCRASTINATE—This is too much material to be completed the night before school starts!!

## AP Biology Summer Assignment: Checklist

- |                                                                                           |               |
|-------------------------------------------------------------------------------------------|---------------|
| <input type="checkbox"/> <b>Biology Textbook reading and reading guides</b> (handwritten) | 28 pts        |
| ○ Ch 1 read and complete reading guide                                                    |               |
| ○ Ch 51 read and complete reading guide                                                   |               |
| ○ Ch 52 read and complete reading guide                                                   |               |
| ○ Ch 53 read and complete reading guide                                                   |               |
| <br>                                                                                      |               |
| <input type="checkbox"/> <b>Science skills review packet complete</b> (handwritten)       | 30pts         |
| <br>                                                                                      |               |
| <input type="checkbox"/> <b>Cricket Lab Report</b> (handwritten 1st draft*)               | 40pts         |
| <br>                                                                                      |               |
| <input type="checkbox"/> <b>Safety Contract:</b> signed                                   | 2pts          |
| <br>                                                                                      |               |
| <b>Total:</b>                                                                             | <b>100pts</b> |

**\*PLEASE NOTE: It is extremely important the above material is completed prior to the first day of class, we will be moving rapidly and you will struggle to ever catch up/earn full points if the readings, skills review and lab are not completed during the summer!!**

**If you have a question please feel free to contact me at:  
oortiz@nlmusd.org**