

AP Biology Summer Assignment 2014-2015

Welcome to AP Biology! ☺

AP Biology is a rigorous course designed to provide you with credit for entry-level biology course in college. Emphasis is placed on understanding concepts of biological science, *not just memorizing* facts. One of the best ways to learn is by processing information in peer group discussions. These groups will help you to discuss and bounce ideas off of throughout the school year. Furthermore, several concepts we'll cover next year expand on your prior knowledge from Introductory Biology A, GBBE, and Anatomy. Since you are expected to remember the basics of the Bio A topics before our class begins in the fall (and for many of you, it's been a few years since you've touched base on this information), your summer assignment revolves around reviewing them. Completion of this summer assignment will allow us to spend more time in the year covering material required for the AP exam.

1. Your summer group assignment will be to discuss what you remember from Bio A and create an outline of each Big Idea of Biology. You may use your books, notes from freshman year (or siblings' notes from Bio A ☺), and resources online. There are three goals of this assignment: a) to review and recognize details from each topic that will be expanded upon in AP Biology, b) to form a group of peers (no smaller than 4, no larger than 6) to discuss biological concepts, and c) to find resources that are valid and helpful that you can refer to throughout the year. If you are traveling this summer, be sure to find computer access and respond to group emails (part of your discussion can be done this way). **See back of this page for schedule of due dates.** Once your group has discussed a topic, one member must organize the information into a clear, bulleted list posted to a blog (including major points discussed, pictures, and videos found to help discuss) and have it completed the due date. Our summer assignment site is <http://ahsapbiologysummerassignment.weebly.com/>, and there will be more information forthcoming (via email) about how to create and submit your blog information. I recommend trading off group members for this job, and sending it to the group for approval before the due date. You must submit the group checklist for each blog post emailed to Ms. Bolterstein (found on the back side). I will check the sites for originality (each group must submit individual work!) and completion by the schedule listed on the back of this page. **Your first grade of the semester will be based on these posts** (I will send feedback after the first one to help you organize!). **There will be a test on this material within the first week of class** to assess your group review and individual recall of Bio A and move forward with new information.
2. Your summer individual assignment will be to **read Chapters 1-2 in your book and complete the study guides for Chapters 1 + 2 found on our class website.** (<https://sites.google.com/site/athensapbio1415/> - **save this site! It will be used throughout the year!**) These chapters will largely be a review of biology concepts and basic chemistry knowledge needed for this course, and will not be reviewed in lecture in the fall. The attached pages are **due the second day of school (first full day)**. No late assignments will be accepted (no partial credit, no late grade will be given). My recommendation would be to not start these chapters until August, and review before school begins.
3. Finally, you should become familiar with the AP Central website (<https://apstudent.collegeboard.org/apcourse/ap-biology>) and read the course description to learn about the topics we will cover in AP Biology. This will be the 3rd year of a new curriculum for AP Biology, so many sources online are still out of date and will include information beyond the study necessary for this course. On the website, you can get the most updated course information, find a description of the format of the new AP Biology Exam, and find how the class may prepare you for your future.

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If you have any questions, and/or when your group is ready to submit your gathered information, please email me at AthensAPBiology@gmail.com .

This assignment is not meant to stress you out (have a GREAT summer break, you deserve it!!!) – it's meant to help you review your knowledge of biology individually and with a group – our goal is to start the year refreshed and a similar understanding of these concepts. I am looking forward to an exciting year with each of you. Have a great time exploring, and we'll be in touch this summer!

☺,
Ms. Bolterstein

Schedule for Group Discussion Compilations: (bulleted list with descriptions, at least 3 pieces of information explained per bullet – **all sources used need to be cited with website name and link**, and pictures and videos are encouraged). A sample website with more details can be found at: <http://ahsapbiologysummerassignment.weebly.com/>)

A rubric of expectations will be sent to the class list prior to the first due date.

- **Evolution – Due August 4th at 12:00 noon**
 - Darwin's Theory of Evolution by Natural Selection and Descent from Common Ancestors
 - Patterns and Processes of Evolution
 - **All final revisions due by August 11th at 12:00 noon**
- **Use of energy and materials for cellular processes – Due August 4th at 12:00 noon**
 - Cell growth and division (Mitosis and Meiosis)
 - Maintaining homeostasis (Cellular Respiration and Photosynthesis)
 - **All final revisions due by August 11th at 12:00 noon**
- **Genetics – Due August 11th at 12:00 noon**
 - DNA transcription (to mRNA) and mRNA translation (to proteins)
 - Probability of gene inheritance
 - Effects of mutations in genome
 - Forms of Biotechnology and its uses in modern-day genetic research
- **Interaction in Living Things – Due August 18th at 12:00 noon**
 - Transport of materials across cell membrane
 - Role of enzymes in the cell
 - Interaction of species within an ecosystem
- **Biology as a Tool for Life – Due August 25th at 12:00 noon**
 - Visit CollegeBoard website (information listed in #3 of the assignment)
 - Discuss as a group what you're interested in for future careers (even if they do not include Biology in an obvious way) after perusing the list on the site
 - Each person must post a bulleted list of careers they find interesting and a short paragraph as to why AP Biology is a good choice to help them reach their educational/career goals in the future

**Work with your group and do your best original work – feel free to email me if you have questions! I will send you suggestions for revision for the first post, and you will be able to revise them within a certain time frame if necessary

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