

AP Biology Summer Assignment

2026-2027 School Year

Welcome to AP Biology! We are looking forward to meeting you next school year. This course is designed to be the equivalent of a two-semester introductory biology course usually taken in the first year of college. It will be a rewarding experience but will also be very challenging. 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 (as opposed to an accumulation of facts). Because of the rapid pace of discovery in the life sciences our primary emphasis is on developing an understanding of unifying concepts that connect the major topics of biology.

<https://apcentral.collegeboard.org/media/pdf/ap-biology-course-and-exam-description.pdf>

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 to each other and to the course as a whole:

- **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.

PART I: Summer Scavenger Hunt

On the next page is a list of biological terms and concepts. Locate 20 of those items and have a picture of yourself with the item or take a selfie with the item. **You must be in the photo to get credit!**

Create a Google Slides or PowerPoint presentation using the following format.

Slide 1: include the following information:

- Name
- Grade that you are entering.
- Why you want to take AP Biology

Slide 2: Tell me about yourself.

- What do you like to do in your free time? Sports/Hobbies? Pictures?
- What else do you want Mrs. Forguson and Mr. Moose to know about you?

Slides 3 - 23 should contain three (3) pieces of information and be in the order listed below.

- The picture of you and the biology term. If you just want a partial selfie that's fine too. Do not simply copy and paste images you find online (this will result in a 0).
- The biologically relevant definition of the term (in your own words).
- The date and general location of the picture.

Once you have completed the AP Biology Summer Scavenger Hunt and created a slides presentation, send it to both bmoose@wcasd.net and sforguson@wcasd.net

Scavenger Hunt Options (Choose 20)

1. Aquatic Ecosystem
2. Denatured proteins
3. Mixture of polar and nonpolar liquids
4. Population (a group of individuals of the same species)
5. Inheritance (genetic trait or traits passed from one generation to another)
6. Organism that performs photosynthesis
7. Organism that performs fermentation or a product of fermentation (careful here!)
8. Organism that performs cellular respiration
9. A simple carbohydrate
10. A complex carbohydrate
11. Community (different populations in the same area)
12. Tropical Ecosystem (for those going on vacation 😊)
13. A C4 plant or a CAM plant
14. An animal that has undergone artificial selection.
15. A plant that has undergone artificial selection.
16. An endotherm
17. An ectotherm
18. You eating the product of a fertilized angiosperm.
19. You eating/holding something with a low pH
20. A parasite/parasitic relationship
21. A mutualistic relationship
22. A decomposer
23. Cohesion / surface tension of water
24. Evidence of human impact on an ecosystem
25. Anatomical structure where flowering plants sexually reproduce
26. Herbivory or predation
27. A photoautotroph
28. A chemoheterotroph
29. A primary consumer
30. A Mendelian trait
31. A non-Mendelian trait
32. Something that changes cellular communication in the human body.
33. A carcinogen-alcohol
34. A plant organ that performs photosynthesis
35. A substance that can bring the pH of the stomach closer to neutral.

36. An organism with an endoskeleton
37. An organism with an exoskeleton
38. A plant that does not make flowers (i.e., not an angiosperm)
39. Something that contains keratin.
40. Something that protects against mutations, especially mutations caused by ultraviolet (UV) light.
41. A food rich in lipids.
42. A food rich in protein.
43. Phase change of gaseous water to liquid water
44. Something related to biology that you absolutely love and why.
45. Something related to biology that you absolutely hate (doesn't have to be a selfie) and why.

PART II: Course Content

We will be using the *AP Campbell Biology (12th Edition)* textbook this school year. You should obtain a hard copy from Mrs. Forguson before the end of the current school year to take home with you. There will be an online version of the textbook once school begins in August.

Read and understand the content in Chapters 1 through 5. [Click on this link for the study guide](#) and download the document. You will complete this study guide as the second part of your assignment in order to focus your studies on important concepts that are covered in these chapters. These chapters cover UNIT 1 of AP Biology and include core prerequisite concepts that you need to know to be successful in AP Bio. My recommendation would be to take notes by hand as you read. This will help you commit this information to memory much more than typing notes will. **A 50-60 question test on these chapters will be given on the third day of school, September 2nd!**

If completing this assignment digitally, replace the red text with your answer for each question. If completing with hard copy, put answers on separate paper. **This will be due on the day of the test, September 2nd. You will submit your document to schoology.**

Whichever you choose, be sure to put answers in your own words. This is an independent project (no sharing answers with other students). Simply copying text from another source does not demonstrate understanding and will also be treated as plagiarism.

We hope you have a nice summer and look forward to starting AP Biology with you in August!

- Mrs. Forguson and Mr. Moose