

AP Biology-Summer Assignment

Welcome to AP Biology! The AP Biology curriculum has recently been revised. The entire course focuses on four “Big Ideas” which spirals into the eight units covered in the course, see below:

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

UNIT 1: Chemistry of Life

UNIT 2: Cell Structure and Function

UNIT 3: Cellular Energetics

UNIT 4: Cell Communication and Cell Cycle

UNIT 5: Heredity

UNIT 6: Gene Expression and Regulation

UNIT 7: Natural Selection

UNIT 8: Ecology

Our AP Biology course has very high expectations and there is little time to waste. To ensure that you are successful in the class and on the AP Exam next May, we need to start before class begins. I hope that these assignments will be helpful in building a strong foundation for the newer content we learn as part of the course.

If you have any questions, please feel free to contact your AP Biology teacher. The contact person at Parsippany Hills High School is sshukla@pthsd.net and the contact person at Parsippany High School is smuheisen@pthsd.net. Both teachers will check their emails periodically throughout the summer. Have a great summer! We look forward to a successful and exciting year with you in AP Biology!

Sincerely,

Mrs. Muheisen and Mrs. Shukla

Students entering AP Biology in the fall are expected to have a strong background in biology and chemistry. It is fundamental to success in AP Biology that students review materials prior to the beginning of school.

The Summer Assignment includes content from UNIT 1 and UNIT 8 of the AP Bio Curriculum from the College Board. Bullet points 1 and 2 below pertain to Unit 1 and bullet point 3 pertains to UNIT 8.

1. A pdf version of a portion of the Campbell Biology In Focus, 2nd Edition. Chapter 2 and 3 review concepts from Chemistry and Biology courses. Students should carefully read through sections 2.3-2.5 of chapter 2 and chapter 3 in its entirety. In those sections and chapter you must:
 - a. **Take notes** on the content. Highlighting on a printed copy of the chapters do not count as notes.
 - b. **Complete ALL questions** within the chapters. Please organize your responses by chapter as they will be collected on the first day of school.
 - c. OPTIONAL but encouraged: Watch the following Bozeman videos as they relate to chapters 2 and 3.
<http://www.bozemanscience.com/042-biological-molecules>
<http://www.bozemanscience.com/048-enzymes>
<http://www.bozemanscience.com/water-a-polar-molecule>
2. A pdf version of Holtzclaw and Holtzclaw, Test Prep Series for AP Biology.
 - a. **Read** through the Pearson Test Prep material for chapters 2 and 3.
 - b. **Complete ALL questions** within the material on the Response Document provided.
3. **A.** Please watch the following videos 1. **Population** , 2. **Niche**, 3. **Biodiversity** in that order and **take notes** on key points for submission.

 Biodiversity

 Niche

 Populations

B. Complete ONLY the specific pages assigned below for the BIOZONE workbook assignments-
Timing, Coordination, and Behavior 1 of 2- pages 192-195, 198-199
Timing, Coordination, and Behavior 2 of 2- pages 209, 219-222, 225-229
Energy Flow in Ecosystems- pages 295-299, 305-308

4. A pdf version of Unit 1 and Unit 8 Collegeboard unit guides. Read through them so you are familiar with the specific learning objectives and essential knowledge you will be assessed on.

All students will be given a test covering the content in parts 1 and 2 above (**Unit 1 ONLY**) of this Summer Study Unit within the first three or four classes of school in September. You will have an opportunity to clear doubts (if any) before the test. This will be "Test 1." You are being provided with these materials in advance so that you may use them over the summer to prepare. Performance on Test 1 often predicts success in AP Biology.

You must submit all question responses/notes for part 1, 2, and 3 on the first day of school.

The following links will take you to the folders that contain all of [Unit 1](#) and [Unit 8](#) resources needed to complete the summer assignment.

