AP BIOLOGY SUMMER ASSIGNMENTS

DO NOTHING UNTIL JULY 1, 2020- THEN READ 20 MINUTES/DAY

There is considerable breadth and depth in the AP Biology course, yet our course time (early September to early May) is relatively condensed. Therefore, I strongly suggest completing the following work over the summer prior to our first day of AP Chemistry next year.

The AP Biology exam is based on four key concepts:
Big Idea 1: Evolution
The process of evolution drives the diversity and unity of life.

Big Idea 2: Cellular Processes: Energy and Communication
Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.

Big Idea 3: Genetics and Information Transfer
Living systems store, retrieve, transmit, and respond to information essential to life processes.

Big Idea 4: Interactions
Biological systems interact, and these systems and their interactions possess complex properties.

The AP Biology is very similar to the ACT in that it is a measure of concept understanding and the synthesis of information. I strongly suggest completing the following work over the summer prior to the first day of AP Biology next year.

AP BIOLOGY TEXT: AP Edition Campbell Biology; 9th Edition. Access to the on-line text materials will be available at the start of the school year.

SCHOOLOGY: The access code to Reading guides, Activity guides, and other course material on Schoology is S428T-FBMBR . I strongly recommend that you use these items to gain comprehension over the summer.

There will be an assessment on assigned work during the first week of school. The test is a measure of your basic understanding of the summer reading to guide the first term curriculum. Full comprehension of all principles is not necessary or required. Do not try and memorize material, rather get a basic understanding of the chapter concepts listed at the start of each chapter.

Unit 1- The Chemistry of Life
All Chapters (2 – 5); we will work on these chapters in class through September
These chapters focus on the important chemistry concepts that are integral to biological function. The majority of this information will be review from your Chemistry course. You may encounter some new details, in particular how the chemical concepts you have learned specifically apply in Biology- these are great connections to make. Basic recommendations for working through the unit:

- **Read/study the chapter including the unit interview at the beginning.**
- **Make notes/outline the concepts of each chapter**
- **Complete the chapter review questions, in particular the Application/Analysis and Synthesis/Evaluation questions**

Chapter 2- This chapter is a Chemistry review of atoms, bonding, and reactions
Chapter 3- This chapter outlines the importance of water in supporting life
Chapter 4- This chapter outlines the role of carbon as the basis for living organisms
Chapter 5- This chapter outlines the macromolecules (Carbohydrates, Proteins, Nucleic Acids, and Lipids) that are essential for all living organisms

Unit 2- The Cell
Chapters 6 – 9; we will work on these chapters in class through October
These chapters begin our understanding of the cell- the smallest functional unit of living organisms. We have a combination of students who have already taken a full year Biology course, and many for whom this will be their first course. These chapters will either be a review or new concepts. Regardless, a basic understanding of the cell is imperative for the start of the course in the fall. Chapters 8 and 9 incorporate the chemistry knowledge from Unit One to explain the key metabolic functions of the cell. Follow the guidelines for Unit One on your approach to studying the chapters.

Chapter 6- This chapter introduces the cell and its structure as the smallest unit of living organisms
Chapter 7- This chapter examines the role of the plasma membrane and transport of materials in and out of the the cell
Chapter 8- This chapter introduces basic cell metabolism, incorporating chemistry knowledge from chapter 2
Chapter 9- This chapter begins the study of energetics and how cells utilize nutrients to create energy for use by the organism

Information from College Board
There is a wealth of information from the College Board about the AP Biology Exam at the following website:
http://www.collegeboard.com/student/testing/ap/sub_bio.html?biology

Success in any endeavor you choose to pursue, whether it is academics, athletics, arts, basically life is not accomplished in nine months. In everything you strive to do well, you must commit and make that goal part of your lifestyle, not a hobby to pick up on occasion when you are bored. You are not being asked to devote every moment of your summer to AP Biology; rather commit to a schedule that allows you to be prepared for the start of class in the fall, honor other responsibilities, and enjoy the relaxation of summer.