**A.P. Biology** is an in depth study of organisms on macroscopic, microscopic, and chemical levels. The main purpose of the course is to prepare the student for the A.P. Biology Exam in May, which all students are *encouraged* to take.

Your summer assignment will be to review chemistry. To truly comprehend the biologic concepts presented in A.P. Biology, one needs a solid foundation in chemistry. Thus, the completion and understanding of high school chemistry is a recommendation/pre-requisite for A.P. Biology. If you have not completed chemistry, I would recommend purchasing a chemistry Cliffs Notes book to use as an additional reference throughout the summer months and school year.

**Your summer assignments**: This should be a review of the suggested chemistry prerequisite.

**Check out an A.P. Biology textbook**. Do it prior to leaving for summer break, as there are no textbook checkouts after this date. This textbook will be your #1 classroom resource throughout the entire 2015-2016 school year. \*\*Please visit my classroom, NORTH 702, to do so.

**Read Chapters 1-4.** Chapter 1 is an overview of A.P. Biology. Chapters 2-4 should be a review of the material covered in chemistry that will be woven throughout the A.P. Biology curriculum.

*Note: Especially with science texts, the expression “A picture is worth a thousand words” is true. Spend time deciphering what each graphic is illustrating.*

**Outline or do the *Reading Guides (recommended)* posted on WEEBLY for chapters 1-4**.

The reading guides help guide you to the pertinent information as you thoroughly answer the questions. A good outline covers **only** the pertinent information from the chapter and is ***written*** ***in your own words***. Your outline and reading guides should sound like you (not the text) and should pose questions to remind yourself where additional explanation is needed. Most of the information you will learn in AP biology is from the text--you must understand it! The practice tests at the end of each chapter will help prepare you for the real tests. The CD-ROM that comes with your text also has **objective questions**. You should be able to answer these when done. The more you practice the better off you will be.

**Answer EACH of the following essays** in paragraph form. Each essay is a free response that should be completed in about 25 minutes (more of a “quick write” in complete supported sentences) and does NOT have to be completed in the 5 paragraph essay (or any other) format. Although typed is preferred, I will accept NICELY written essays.

**Essay Question 1.**

Chemical bonds are essential to building the molecules for life. In 3 paragraphs, **describe** the following bond types and how they are significant to life on earth: ionic, covalent (polar and nonpolar), hydrogen, and Van der Wahls (interactions).

**Essay Question 2.**

The unique properties (characteristics) of water make life possible on Earth. In 3 paragraphs, select

three properties of water and:

a) for each property, **identify** and **define** the property and **explain** it in terms of the physical/chemical nature of water.

b) for each property, **describe** one example of how the property affects the functioning of living organisms.

**Essay Question 3.** Carbon is a very important element in living systems. **Describe** the various characteristics of the carbon atom that makes possible the building of a variety of biological molecules, thus life as we know it.

 Weebly Website: Talleysbiobin.weebly.com

**The aforementioned outlines, study guides and essays are due the first day of school:**

**TUESDAY, AUGUST 18th**

To clarify, you will be handing in:

* Reading guides OR outlines over chapters 1 thru 4 (4 total)
* Essay Questions, all 3, in paragraph form

Chemistry Stuff to Know:

* Law of Conservation of Mass, Properties of Matter, Chromatography
* Isotopes, Molecular and Ionic Substances, Organic Compounds
* Acid-Base Reactions, Oxidation-Reduction Reactions, Molar Concentrations
* The Wave Nature of Light
* Ionic Bonds, Covalent Bonds, Electronegativity
* Liquids
* Thermodynamic and Equilibrium (ΔG especially)
* Radioactive Decay

***So study hard!!!***

Please note that I will be checking my e-mail periodically throughout the summer. I will commit to checking in at least once a week, if not more. Please feel free to contact me via e-mail with any concerns or questions that you may have as you navigate through your summer learning.

Looking forward to a fabulous school year!

Mrs. Jennifer Talley

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