**Summer Assignment**

**Part 1: Edpuzzle Videos with Biochemistry (7 videos)**

* Each video assignment will graded and the five best averages will count.
* Students should create their own note sheet for each video and these will be checked on the first day of school. You can use the note sheets posted on the classroom as guidance or you can create your own. (7 points)

**Part 2: Discovering Evolution**

* Students will be required to read one of the following scientific books. The AP Biology exam requires you to write mini-essays and these books will increase your knowledge of biology and the practical application.
  1. The Immortal Life of Henrietta Lacks
  2. The Selfish Gene
  3. The Monk in Garden
  4. Your Inner Fish
  5. Hot Zone
  6. Double Helix

AP Biology covers four big ideas- the first of which being Evolution. Read one of the books above, write an essay addressing the prompts below. Familiarize yourself with the rubric so you understand how to earn a good grade:

“Charles Darwin proposed that evolution by natural selection was the basis for the differences that he saw in similar organisms as he traveled and collected specimens in South America and on the Galapagos Islands.”

**Darwin’s Theory of Natural Selection States the Following:**

· **Organisms produce more offspring than can survive**

· **Variation (differences) exist in all populations**

· **Organisms best suited to environments will have more offspring**

· **Over time organisms with certain advantageous variations make up most of the population**

Four of his contributions to the field of evolutionary biology are listed below.

* **The non constancy of species**
* **Branching evolution, which implies the common descent of all species**
* **Occurrence of gradual changes in species**
* **Natural selection as the mechanism of evolution**

In a well-developed response address the following:

(a) Explain the theory of evolution by natural selection as presented by Darwin.

(b) Using your explanation of Darwin’s theory and the information from the text, provide examples addressing Darwin’s contributions.

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| **0**  **Unacceptable** | **1**  **Minimally acceptable** | **2**  **Acceptable** | **3**  **Exceeds expectations** |
| **The answer has several errors in both conceptual level and communication clarity. Multiple mechanical errors or complete failure to answer the question.**  **Parts or all of the writing is plagiarized.** | **The answer contains one or two basic facts that are correct, but may also have incorrect statements as well. No connections or comparisons provided.** | **The answer contains most (75%) of the points that needed to be included. The writing is clear. Correct attempts to integrate the points.** | **The answer not only contains the main points but goes beyond them to provide a critique of their veracity. The writing is clear and measured.** |

**Part 3: Data Analysis**

* The AP Biology exam tests a students ability to analyze data and conduct “good” science. Students need to understand how to analyze a variety of data and determine if the data is significant enough to prove a hypothesis.

There will be two Data Analysis Questions posted on Google Classroom- one in July and one in August. Each question will require you to submit a Google Doc to google classroom. If you are unsure how to do this or have questions at any time, please reach out.