

2018-2019 AP BIOLOGY - SUMMER ASSIGNMENT

I know that many of you are excited, as well as a little bit nervous, about taking AP Biology next year. I am in the same boat. I am very excited and a bit nervous to be taking on this curriculum again, but I feel I am once again up to the challenge and I hope you feel the same way. AP Biology takes a high level of commitment on your part and on mine and I want us to work together to make next year a success.

There are two parts to this assignment. Both assignments are due the first day of school. This is an individual project, students are NOT to work on this assignment together. The AP Biology textbook will not be available to you over the summer to complete Part 2 of the assignment, so you will have to find other resources to obtain the required information.

If you have any questions, please feel free to email me over the summer as I do check my email. lwagner@mlsd.org I will also be posting this assignment and other information regarding AP Biology on the MLSD website under my staff homepage. (www.mlsd.org → Medical Lake High School → School → Staff Directory → Lisa Wagner) Check back frequently to view any updates.

Part 1

Summer reading assignment: *The Immortal Life of Henrietta Lacks* by Rebecca Skloot

You are expected to have the book read by the time you return in September and also to have the attached reading guide completed. Your answers to the reading guide need to be in your own handwriting and attached on a separate sheet of paper. We will be using the information in the book to explore bioethics and how it has influenced cellular research from the 1950s until now.

Part 2

This part of the assignment introduces you to our first unit on animal behavior and interactions. This is a topic that we will be covering at the start of the year (quickly) and there will be a test and lab within the first 1-2 weeks of school. Answer the attached questions in your own handwriting and on a separate sheet of paper. Make sure to organize your information.

Supplies you will need for AP Biology:

- *Graphing composition book (to use as your lab notebook – can be found at Staples, Office Depot, etc...)*
- *3-ring binder/Notebook*
- *Paper (to take notes)*
- *Folders (to keep handouts and other information regarding the course)*
- *Scientific calculator*

We move at a very fast pace in this course, so organization is key! You should be prepared to do quite a bit of reading and studying on your own (more so than you might have done when you took biology your freshman or sophomore year).

*****Enjoy your summer! I am looking forward to the new year of AP Biology with you!*****

Part 1

***The Immortal Life of Henrietta Lacks* Reading Guide**

Your answers to the reading guide need to be in your own handwriting and attached on a separate sheet of paper. ***This is due the first day of school!***

The Immortal Life of Henrietta Lacks is divided into three parts: Life, Death, and Immortality. As you read the book answer the questions below to guide your thoughts and ideas and note any dates or events you feel are important to understanding the information in each section.

Part 1: Life

Chapters 1-11

- What led Henrietta and her family to distrust medical doctors and hospitals?
- Why did the author have a hard time getting Henrietta's family to trust her?
- How do you think the Lacks' lives might have been different had Henrietta's doctors asked for and gotten *informed consent* from her family before gathering her cells for research? (What is informed consent?)

Part 2: Death

Chapters 12-22

- Why did the doctor who first grew Henrietta's cells (*what was his name?*) want to protect her identity? What was the pseudonym he created?
- In chapter 17, a virologist, (what was his name?), wondered if scientists working with Henrietta's cells could get cancer from handling the cells. What did he do to test the theory that cancer was caused by a virus or immune system deficiency?
- What is the Nuremberg Code and why was it established?

Part 3: Immortality

Chapters 23-38

- What responsibility did the medical researchers, Johns Hopkins, and other institutions have toward the family?
- Through research using HeLa cells, scientists discovered what made these cells immortal. What did they discover?
- In the Afterword, Skloot discusses the ongoing debates among medical scientists, lawyers, ethicists, and others. Some feel it is the right of every person to have a say-so in how their cells are used or not used for research. Others believe it is everyone's obligation as members of society to donate (without compensation) their tissues for the good of society because that is how new drugs and treatments are discovered. What do you think?

Part 2

Answer the following questions in your own handwriting and on a separate sheet of paper.
Make sure to organize your information. **This is also due the first day of school!**

Behavioral Interactions:

Timing and coordination of behavior are regulated by various mechanisms and are important in natural selection.

1. Define ethology.
2. Describe the difference between a kinesis and a taxis. Give examples of each.
3. Describe the difference between a positive and a negative taxis.
4. Describe the difference between abiotic and biotic factors in an organism's environment. Examples of each.
5. Individuals can act on information and communicate it to others. Describe each of the following animal behaviors as revealed in studies performed by the given researcher:
 - a. Fixed action patterns and Nikolaas Tinbergen
 - b. Imprinting and Konrad Lorenz
 - c. Classical conditioning and Ivan Pavlov
 - d. Bee communication and Karl von Frisch
6. Define/explain each of the following types of animal behaviors and how they are vital to reproduction, natural selection, and survival:
 - a. Agonistic behavior
 - b. Dominance hierarchies/Pecking order
 - c. Territoriality
 - d. Altruistic behavior
 - e. Hibernation
 - f. Estivation
 - g. Migration
 - h. Courtship
7. Cooperative behavior within or between populations contributes to the survival of the populations. Describe how the following examples illustrate this concept.
 - a. Niche and resource partitioning
 - b. Mutualistic relationships
 - c. Pollination