AP Biology Summer Introduction To The Course

The AP Biology Curriculum is divided into 8 main units

1. Chemistry of Life
2. Cell Structure and Function
3. Cellular Energetics
4. Cell Communication and Cell Cycle
5. Heredity
6. Gene Expression and Regulation
7. Natural Selection/Evolution
8. Ecology

Course Expectations

- Concepts learned at the beginning of the course are essential for the rest of the year.
- Material is presented at a rapid pace with a dense amount of content.
- Critically think in assignments rather than relying on memorization.
- There will be a need to invest out-of-class time to work on the course material.
- Self-advocacy and self-accountability is necessary to ensure success in the course regarding assignments.

Helpful Resources

1. OpenStax:: https://openstax.org/details/books/biology-ap-courses
    a. A free online textbook that is not required for the course but is a useful resource.
2. Khan Academy: https://www.khanacademy.org/science/ap-biology
    a. A free online resource that includes videos, articles, and practice questions that follow the AP Biology curriculum
3. YouTube Videos: https://youtube.com/@AmoebaSisters
    a. Numerous channels that summarize biology concepts such as the Amoeba Sisters and Crash course.

Assignments Overview

Welcome to AP Biology! My goal for this course is to spark an interest in different areas of Biology throughout the year. To start off the class you need to complete the three activities provided below regarding the Ecology Unit. You will create **one Google Slides presentation** in which you will explain each of the **three assignments** that you completed during the summer. When we return to school, you will present your experience to your teacher and classmates. I want you to reflect on the strategies that you used to develop each assignment and share this in your presentation as well. **Be creative and engaging!**

Assignment 1

Ecology Vocabulary Scavenger Hunt

1. Create a Google Slides presentation with the 10 terms below. Include in each slide:
    a. In your own words, the definition of the term.
    b. An image that you took over the summer related to the topic. Include the date and general description of the location that you took the picture.
    c. Present this assignment to the class during the first day of class.

Vocabulary

- Population
- Community
- Ecosystem
- Parasite relationship
- Mutualistic relationship
- Herbivory
- Primary Consumer
- Photoautotroph
- Chemoheterotroph
- Ultimate source of energy

Assignment 2

Braiding Sweetgrass for Young Adults

1. Read the Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants. You could find the book at: **Amazon**
2. In the Google Slides presentation that you are going to create to present for the class, as mentioned in the overview, should include the following information:
    a. Identify themes and explain how each relates to ecology. Remember that themes are not explicitly mentioned. Think Critically!
    b. Include a brief and descriptive 5 - 10 summary of the book. Incorporate scientific vocabulary in your summary.
    c. A key aspect of being a scientist is to **be curious and creative**! Therefore, develop a mini-poster, drawing, or any other artistic representation of the themes you identified. Also, include in your artistic representation of the book elements related to ecology such as flora, fauna, relationship between living organisms, among other science related components.

I encourage you to view the Helpful Resources section to learn more about Ecology and can incorporate related terminology into this assignment.

Assignment 3

Our Planet | One Planet

1. Watch the Our Planet | One Planet Documentary

   Our Planet | One Planet | FULL EPISODE | Netflix

2. Develop a 15 sentence reflection of the documentary. Include the following:

- Explain how the planet is interconnected.
    - Research different biomes and how their health influences each other.

- Mention and explain the patterns of interactions between species.

- Discuss the Anthropogenic impacts on the climate.
    - Incorporate the effects of climate change in diverse aspects such as migrating species, environment, etc.

- Analyze the importance of ice on other areas of the planet such as land and sea.
    - Reference how human activity has impacted ice on the planet.

- Define biodiversity and describe its importance and impact on ecosystems.

- Mention and elaborate on ways we can as individuals and as a society create changes to help our planet.