AP and IB Biology
Ecology Summer Work
Albert Einstein High School

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AP and IB Biology
Dr. Small

Dear AP or IB Biology Student:

Attached is your Ecology Summer Work packet, a journey into the world around you, and an introduction to our first unit of study for the fall semester. In the packet you will find the summer work project, which includes field observation and producing a summary of the material in a creative format. Please read the instructions carefully.

To help you to prepare for the project, and the unit of study, I have attached two packets for you to read and complete (Ecology Packet # 1 and Ecology Packet # 2).

If you have any questions feel free to contact me over the summer at AEHSBIO@gmail.com. I will check my email regularly, but not always the same day as you send your questions.

Have a great summer and I look forward to seeing you in the fall.

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The Ecology Project (Due the 1st Friday of School)

Introduction:

One of the wonderful things about summer is that you have time to go outside and enjoy nature. What better time to study ecological principles for your AP or IB Biology class? After you have read and completed the work for all the assigned chapters, you are to take your own field trip through an ecosystem of your choice. This can be in your own backyard, the beach, an estuary, a forest, an open field, a weedy urban lot, a section at the zoo, any type of ecosystem…… You get the picture.

Purpose:

In this exercise, you will investigate the structure and function of an ecosystem and generate a product to display your unique ecosystem.

Requirements:

1. *Field Trip Observations*

   Spend some time (at least one hour) observing the features of your study site, both abiotic and biotic. Based on your observations, write a brief description of the study site, including its physical and biological features. These observations should be recorded in a notebook or in some sort of written or typed form, and include the following:

- Identify the location of your ecosystem.
- Identify the biological community in your ecosystem, including producers, primary consumers, secondary consumers, and higher-level consumers. Be sure to give common names and scientific names of organisms. (The library should have several identification books for plants and animals or you may use on-line resources)
- Describe how these organisms are ecologically linked to each other.
- List abiotic factors in your environment and how these components are important to the biotic community.
- Identify one example of a predator-prey relationship in your ecosystem.
- Identify one example of a symbiotic relationship in your ecosystem. In the explanation you should describe how this relationship affects both organisms.
- Observe one organism in your ecosystem for at least 10 minutes. Describe the behavior of this organism and the evolutionary significance of this behavior.
- Describe evidence that demonstrates the impact humans may have on your ecosystem.

2. *Final Project*
   After your field trip, you will generate a product addressing all of the topics noted in your "Field Trip Observations." This can be in the form of an illustrated children's book, a scrapbook, a video documentary, etc… You may use PowerPoint or make a Brochure. Please do not put all of this on a poster board. (I.E. NO POSTERS) This project should be somewhat interactive. I give you full creative freedom to generate your own visual representation to document your ecosystem field trip.

   - Feel free to take pictures, draw, or collect the organisms at your study site for better identification and to help you in developing your final project.

Ecology Field Trip Scoring Guide

Field Trip Observations notebook ……	10
Final Project	
Location and description of ecosystem ……	5
Biological Community	
Producers ……	5
Primary Consumers ……	5
Secondary Consumers ……	5
Higher-Level Consumers ……	5
Ecologically linked – food web, trophic levels……	10
Abiotic factors and importance ……	10
Predator-prey relationship ……	5
Symbiotic Relationships ……	10
Animal Behavior and significance ……	10
Human impact ……	5
Effectiveness of showing ecological relationships……	5
Mechanics, neatness, and creativity……	10
Total Points:	100

- **All projects are due on the 1st Friday of school.**