

**AP Biology Summer Assignments**  
**Ms. Bjelko**

Welcome to AP Biology! I am looking forward to September when we start working together as a class! I need this summer vacation to recover from this school year and relax as much as you do. So enjoy your time off in July and August! However, AP Biology has to start a little sooner than September, so budget your time well so you can enjoy this summer while you complete this work. FYI, it is possible to enjoy a warm sunny day in the summer AND get your work done! Grab your sunglasses, sunscreen, a snack, and take your work outside! And most importantly, remember that I have to read everything that you do, so I will be doing summer homework just like you!

Sincerely,  
Ms. Bjelko

How to Contact Ms. Bjelko over the summer  
Email: [bjelkok@norwalkps.org](mailto:bjelkok@norwalkps.org)

What is AP Bio?

AP Biology is designed for those students who know they will use biology in their college career, and want to get a head start. You are essentially taking Biology 101, the same course that college freshman in science fields take. You have all taken biology before, but this is NOT a repeat of the course you took a few years ago. The more you remember from general biology, the better off you will be.

Goals of AP Biology

The direct goal for this course is to prepare you to take the AP exam in the spring. If you do well enough on the exam some college programs will allow you to register for more advanced science classes in your freshman year. My personal goal as your teacher is to help you appreciate the beauty and complexity of living organisms and to prepare you for college courses.

Why Give Summer Work?

The curriculum goal for AP Biology is simple; understand and be able to explain everything in this book. (Pages 1-1267). As you have probably already realized, this is not possible in the time frame of a high school year. I have assigned you 6 chapters of ecology to do on your own over the summer. Whether you travel or stay at home working all summer, you can apply the information and terminology in these chapters to the outside world you will see on a daily basis. I hope you will use this as inspiration to not only get the work done, but make it personal and interesting.

### Handing In Summer Assignments

Summer work must be Emailed to me by 11:59pm on the dates listed (remember that Email records both the time and date it was sent so I will see the exact minute you sent it). It is important to also email yourself the work so that you have a record of the exact day and time you sent it.

**No computer? Computer died? Internet connection failed? NO PROBLEM- you can mail it to me using the US Postal Service!** (You can even mail it from another country!- I'll get a cool international stamp then!) I prefer typed work, but if you lack a computer for some reason, *neatly* handwrite the assignments.

If you do not have access to a computer at all, or for part of the summer because you are traveling, you may mail the work to me at the following address. It must be post marked by the date listed.

Brien McMahon High School  
300 Highland Ave  
Norwalk, CT 06854  
ATTENTION: Ms. Bjelko/AP Bio

*The records for longest distances homework was sent from currently stand at emails sent from Italy and handwritten work mailed from Colombia!*

**NO LATE WORK ACCEPTED! NO EXCUSES!**

### Grading of Summer Assignments

Your assignments will be individually read by me, and graded based on completion and quality of the work. Assignments that arrive late\* or not at all will NOT be read. A zero will be placed in the grade book if the work is late\* or not done. If I read several assignments that appear to be "a little too similar" to each other, all parties will receive a zero.

\*late- post mark on the envelope is after the due date on this document, date/time record on the Email document is after the due date on this document.

### What to expect in September

- Day 1: 7 grades in the first quarter grade book, general review and discussion of the material done over the summer
- Day 2: Pre-lab for AP Bio lab associated with summer work
- Day 3: Lab day
- Date TBA: Comprehensive test on chapters 51-56 using the AP test as a model- multiple choice and essay questions. Depending on the BMHS A/B/C/D day schedule the test may be broken into two sections and take 2 class periods to complete the test.

<b>Assignment Description</b>	<b>Due Date</b>	<b>Point Value</b>
Pick up materials, review with parents/guardians Return last page of packet and BMHS safety policy with signatures to Ms. Bjelko	June 20, 2011 **by 12:00pm	5
Send a test Email to Ms. Bjelko at <a href="mailto:bjelkok@norwalkps.org">bjelkok@norwalkps.org</a> to make sure that your homework can be successfully sent during the summer- you will receive a reply from Ms. Bjelko as confirmation	June 20, 2011	---
Read chapter 51, answer the chapter 51 essay question, and create a vocabulary list with definitions of the key terms in chapter 51.	July 8, 2011	20
Read chapter 52, answer the chapter 52 essay question, and create an outline of chapter 52 that includes key vocabulary, definitions, examples and concepts. See the notes below about outlining.	July 15, 2011	20
Read chapter 53, answer the chapter 53 essay question, and create an outline of chapter 53 that includes key vocabulary, definitions, examples and concepts.	July 22, 2011	20
Read chapter 54, answer the chapter 54 essay question, and create a vocabulary list with definitions of the key terms in chapter 54.	July 29, 2011	20
Read chapter 55; answer the chapter 55 essay question, and create an outline of chapter 55 that includes key vocabulary, definitions, examples and concepts.	August 5, 2011	20
Read chapter 56; answer the chapter 56 essay question, and create an outline of chapter 56 that includes key vocabulary, definitions, examples, and concepts	August 12, 2011	20

### Outlining Tips

An outline is an excellent way to condense a large chapter into a manageable document for studying. It is important that the outline is in **YOUR OWN WORDS** because you will be more likely to understand and remember the information involved.

Outlines are not designed to include long sentences. Break down sentences into short phrases. This way you are more likely to remember the information, and it is less intimidating when it comes to studying the entire unit. One more way to make your outlining process faster is to create logical and consistent abbreviations. For example, when I take notes or teach I always shorten the term “amino acids” to “AA” and “photosynthesis” is shortened to “ps”. Doing this will also help you in your note-taking as you finish high school and start college.

I do not require you to use the system of roman numerals, capital letters, and lower case letters in outlining for science. The main goal is to see that you can organize a large number of terms and concepts. Below I have included a mini-outline from chapter 55 to show you a simple outline in the case that you don't remember the roman numeral/letters system.

- Trophic levels determine energy flow
  - primary producers are the base of food chains
    - autotrophs (mainly plants/green things)
  - heterotrophs/consumers
    - herbivore (insect) primary consumer
    - carnivore (lizard) secondary consumer
    - tertiary consumer- carnivore that eats other carnivores
  - detritivore/decomposer (bacteria/fungus) eat dead organic matter
    - important for natural recycling system
    - link all trophic levels together

### Preparation for Ecology Test

Study vocabulary in the chapters

Be able to explain major concepts in each chapter

Take “self quizzes” at the end of each chapter, answers are provided to help you

Be an active participant in the in class reviews

Pay attention to the labs, not just the procedure, and results, but the purpose, applications, and background information

## AP BIOLOGY SUMMER ESSAY QUESTIONS:

### CHAPTER 51:

Survival of organisms depends on adaptive behavior and species interactions. Behaviors of organisms may be influenced by environmental factors.

- a. Select two of the following types of behaviors and explain how the environment affects the behavior.
- b. Using the two behaviors you chose for part A, explain why this behavior increases survivorship of individuals of a species.
  - i. Taxis/kinesis
  - ii. Migration
  - iii. Courtship
- c. Suppose a virus that infected a side blotched lizard population (pages 1137-1138) killed many more males than females. Hypothesize how the infection would IMMEDIATELY affect the competition among the males for reproductive success.

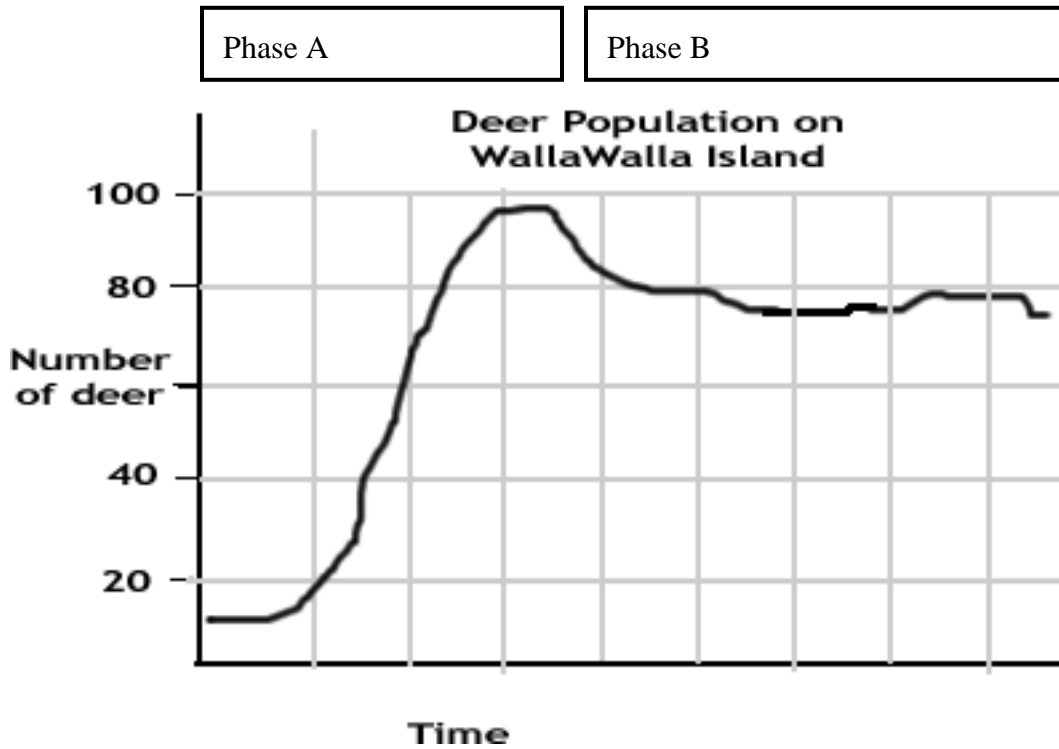
### CHAPTER 52:

Tropical forests contain the most biodiversity of all terrestrial biomes.

- a. Discuss the abiotic factors that allow for this biodiversity.
- b. Explain why ecologists say that the Amazon Rain Forest creates and maintains its own weather.
- c. A researcher wants to keep a rare tropical plant in the Congo from becoming extinct. Which terrestrial biomes OTHER THAN tropical forests could the plant potentially grow in? Explain.

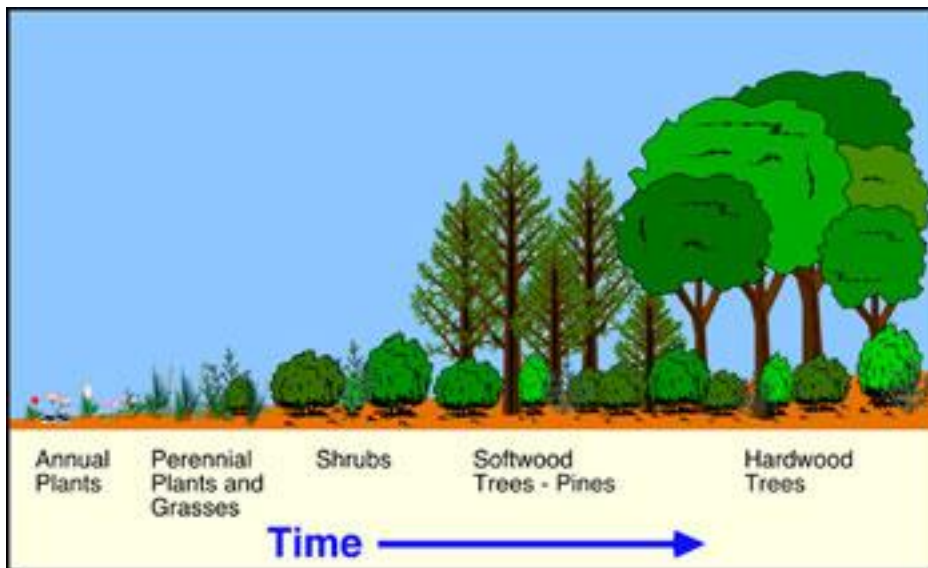
CHAPTER 53:

Many populations exhibit the following growth curve.



- Describe what is occurring in the population during phase A.
- Discuss three factors that might cause the fluctuations shown in phase B.
- Organisms demonstrate exponential (R) or logistic (K) reproductive strategies. Explain these two strategies and discuss how they affect population size over time.

CHAPTER 54:

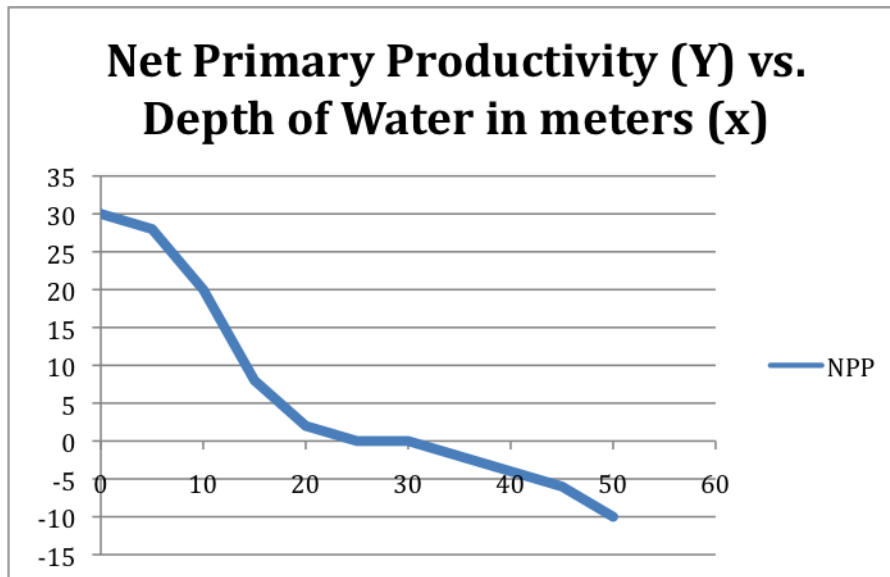


The diagram above shows the succession of communities from annual plants to hardwood trees in a specific area over a period of time.

- a. Discuss the expected changes in biodiversity as the stages of succession progress as shown in the diagram above.
- b. Describe and explain three changes in ABIOTIC conditions over time that lead to the succession, as shown in the diagram.
- c. Discuss the immediate and long-term effects on ecosystem succession if a volcano erupts, covering a 10-square kilometer portion of mature forest with lava.

## CHAPTER 55:

Consumers in aquatic ecosystems depend on producers for nutrition. In an experiment, net primary productivity was measured in early spring for water samples taken from different depths of a freshwater pond in a temperate deciduous forest.



- Explain the difference between gross and net primary productivity.
- Explain the data presented in the graph, including a description of the relative rates of metabolic processes occurring at different depths of the pond.
- Describe how the relationship between net primary productivity and depth would be expected to differ if new data were collected in mid-summer from the same pond. Explain your prediction.

## CHAPTER 56:

Two major issues in conservation biology are saving endangered species and reducing the numbers and damage from introduced species.

- Identify an endangered species native to the United States and discuss the reasons why the population size is low.
- Discuss what has been done and is currently being done to help the population of this species.
- Identify a non-native introduced species in the United States and discuss the impact it is having in the surrounding ecosystems.

**Contract for Students and Parents**  
**Must be returned by June 28, 2010 2:30pm**

**Student:**

I have read the previous pages, and I am aware of the assignments that must be completed over the summer for AP Biology. I will get all work done by the due dates provided, and if I fail to do so I will not argue about the consequences. I know how to contact Ms. Bjelko over the summer if I have any questions, and I will do so if and when necessary. I have signed out a Campbell Biology 8<sup>th</sup> Edition text book, and I will return it at the end of the 2010-2011 school year or pay the fee on the receipt.

Printed Name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**Parent/Guardian:**

I have read the previous pages, and I am aware of the assignments that my child must complete over the summer for AP Biology. I understand that the due dates are final, and that my child must take the consequences if they fail to complete the work in time. I know how to contact Ms. Bjelko over the summer if I have any questions, and will do so if and when necessary. I am aware that my child has signed out a Campbell Biology 8<sup>th</sup> Edition book, and they are responsible to return it at the end of the 2010-2011 school year or pay the fee on the receipt.

Printed Name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_