

## AP Biology at Mesa – Summer 2011 Assignment

Ms. Schultz – Renaissance Hall Room 155

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Welcome to AP Biology! You have taken on a rigorous course in which you will learn a considerable amount about how life functions on many levels, from a molecular perspective up to global relationships between ecosystems. Due to the amount of material we need to cover in preparation for the AP exam in May, you will be required to do some independent study over the summer. The assignment will cover an introduction to scientific processes (chapter 1) and ecology (chapters 52-56).

The summer assignments are designed to introduce you to ecological concepts, and to get you thinking like a scientist and developing analytical thinking skills required for advanced science courses. Everything will be posted on the AP Biology wikipe, please check this site frequently for information during the summer.

Late assignments will NOT be accepted. In order to keep up with the pace of the class and be prepared for labs, lectures, quizzes, and tests, you must stay updated with all your assignments. The timeline provided is designed to keep you on track with reading, but to avoid trying to do it all at once.

Some of your assignments will be due via email during the summer. Email all summer work to the [mesabiology@ymail.com](mailto:mesabiology@ymail.com) address. Make sure you always sign your emails with your full name and following the directions for the subject line.

### Assignment #1: Letter of Introduction

Write a brief letter of introduction to me. Include the following information: DUE June 30. Letters are to be emailed to me at [mesabiology@ymail.com](mailto:mesabiology@ymail.com) and should be written within the body of the email, not attached as a document. In the subject line write 'Introduction – (first initial, last name)'.

- Why you are taking AP Biology
- What you hope to get out of the class
- What activities you are involved in during the school year
- What your plans are for after high school
- Any areas you think might be difficult for you (content, tests, labs...)
- Any biology topics you are especially interested in
- Anything interesting about yourself you would like to share with me (hobbies, family, jobs) ☺

### Assignment #2: Ecology Introduction

1. ~~Read chapters 52-56 Complete the reading guides/outlines, and complete the online quizzes for each chapter (note that chapters are not covered sequentially)~~ Due to the textbook shortage, review the notes that are posted online under the 'Summer Assignment' page instead. There will still be quizzes as scheduled, but they will be based on the notes instead of the reading. Taking notes or outlining while you go over the notes is recommended, but not required.
2. Complete the biome ecology project – due on the first day of school

### Assignment #3: Spot check quizzes

You will be required to complete short quizzes throughout the summer for each chapter. Quizzes will be 5-10 questions and will be on the classmarker.com website. Quizzes will be timed (around 8-10 minutes depending on

number of questions). Due dates are listed on the summer assignment timeline. Quizzes will be posted for about 10 days and will be taken down at 10 p.m. on the due date. Missed quizzes cannot be made up, so make sure you have internet access if you are on vacation.

#### Assignment #4: Analysis of Scientific Article

An important part of any science class is the ability to analyze information you read in articles, books, and other resources. For this assignment you will read the journal article *"The Morphology of Steve"* and complete the article analysis assignment. As the year progresses, we will read more challenging articles, but this one should be an easy read! Use the article analysis assignment sheet to answer the questions and email your completed assignment to [mesabiology@ymail.com](mailto:mesabiology@ymail.com). In the subject line write 'Article Analysis #1 – (first initial, last name)'

#### Assignment #5: AP Biology Supplies

- Lab notebook – a notebook with carbon copies which you will use for your major labs. Best prices are on amazon.com (check link on wikipege)
- 3 Ring Binder – notes, lab activities, practice tests and essays will be organized in order of unit
- Colored pencils/highlighters
- Black/blue pens
- AP Biology Test review book – not required, by recommended... try the Cliff's, Princeton, or Kaplan version, but there are several options available.

#### Assignment 6: (OPTIONAL) - The Scripps Research Institute (TSRI) Field Trip Essay

In September or October I will be taking a group of 30 students to visit TSRI in La Jolla as an extension of a biotechnology program. As much as I would love to take all the biology students, we are limited to only 30 students. I will be choosing students based on an essay that will be due on September 9.

- ✓ What do you know about TSRI?
- ✓ Why do you want to visit the institute?
- ✓ How would the visit benefit you?

#### Summer Assignment Due Dates

			Quiz online availability	
	Due	Assignment	Open date	Closed date
1	June 3	Pick up textbook from library		
2	June 10	Register at Classmarker.com Letter of introduction emailed		
3	June 15	Quiz 1 – Chapter 1	June 8	June 15
4	June 24	Quiz 2 – Chapter 52	June 12	June 24
5	July 3	Quiz 3 - Chapter 55	June 21	July 3
6	July 12	Quiz 4 - Chapter 53	July 1	July 12
7	July 21	Quiz 5 -Chapter 54	July 9	July 21
8	July 30	Quiz 6 - Chapter 56 Quiz	July 18	July 30
9	Aug 5	Article Analysis		
10	Aug 11/12	Biome Project Lab notebook purchased		
	Aug 15	FRQ #1 - Ecology		

## AP Biology Summer Assignment - Biome Ecology Project

Chapters 52, 53, 54, 55, 56 in Campbell Text

### PART 1 – Topic study

**Chapter reviews – your choice!** You are expected to read and study the chapters on ecology and will have quizzes assigned online for each chapters. You may either complete the reading guides that are posted on the class website, or you may outline the chapters in a spiral notebook. Please refer to the schedule for chapter due dates – they are not assigned in order!

### PART 2 - Project

1. For each biome on the list below write a paragraph describing the landscape and types of species which reside in it. Also note the temperature range and general geography of each biome.
  - a. Tropical Rain forest
  - b. Savanna
  - c. Temperate grasslands
  - d. Temperate deciduous forests
  - e. Desert
  - f. Tiaga
  - g. Tundra
  - h. Fresh water
  - i. Marine water

### PART 3 - Project

2. **Choose one biome to focus on for this project.** For your chosen biome include color photos of 10 species (scientific/common name included) \*\*if only scientific name is available, you'll receive full credit.
  - a. **Diagram a food chain and food web that is part of your biome.** Note: they are different from each other! You may use the food chain in your food web.
  - b. **Describe and diagram** all 4 biogeochemical cycles going on in your biome, including the hydrologic cycle, carbon cycle, nitrogen cycle, and phosphorus cycle.
  - c. **Describe at least three predators in the biome** and include photos if possible (they can be part of the 10 species in #1)
  - d. **Describe a symbiotic relationship in your biome and include photos.** Define this relationship as mutualism, commensalism, or parasitism, choosing one that best describes the symbiotic relationship in your biome.
  - e. **Look at coevolution mechanisms in your biome.** Note at least **two examples** from the following list of five. Look up these terms in your book, then search for examples that may be found in your biome.
    - i. Secondary Compounds
    - ii. Camouflage
    - iii. Aposematic coloration
    - iv. Mimicry
    - v. Pollination with flower structures matching primary pollinator traits

- f. **Define the trophic levels listed below.** Give the names of two species (in your biome) for each trophic level listed.
    - i. Primary producers
    - ii. Primary consumers
    - iii. Secondary consumers
    - iv. Tertiary consumers
    - v. Detritivores
  - g. **Define ecological succession, both primary and secondary.** Describe succession that may be happening in your biome.
  - h. **Note two human impacts on your biome.** There can be several, but make sure your impacts fit into two of the seven categories below.
    - i. Global climate change
    - ii. Ozone depletion
    - iii. Acid rain
    - iv. Desertification
    - v. Deforestation
    - vi. Pollution
    - vii. Reduction in species diversity
3. **Bibliography of Sources-** note the primary website or books you used to collect images and information outside of your textbook.
4. **When organizing this information** for your project, use the numbers above to note which category or section it pertains to. For example, have a section for Part 1, Part 2, etc...