

ADVANCED PLACEMENT BIOLOGY

Summer Assignment

In order to cover the entire AP Biology Curriculum, you are expected to deal with certain selected topics independently, during the summer and during school vacations. In September, after a very brief review of the summer assignments, you will be tested on **Unit 8, Ecology**, in your text. I recommend that you read it carefully and take good notes. Your notes will be very important in your preparation for the AP Exam next May. All assigned questions should be answered in a dedicated **AP Biology notebook**.

Text:

Biology: Neil A. Campbell & Jane B. Reece, Sixth Edition, 2002.

Assignment:

Read Chapters 50-55.

Chapter 50--Introduction to Ecology and the Biosphere: Concentrate on basic definitions, (population, community, etc.) so that they are completely familiar to you. Know characteristics of all major biomes but don't overload on details. Recognize and distinguish between abiotic and biotic factors. Pay particular attention to Lake Stratification and Seasonal Turnover, page 1104.

Chapter 51-- Behavioral Biology: A totally different subject—Animal Behavior. Distinguish between ultimate and proximate causes of behavior; be able to associate Skinner, Pavlov, Tinbergen, von Frisch, and Lorenz with their respective work. Learn the definitions and principal characteristics of different types of learning. In order to do that, you have to be able to clearly distinguish between things like a sign stimulus, a releaser, a fixed action pattern, etc. and see their relatedness. Spend some time with it and it will become clear to you. Read this entire chapter. You don't need to know the details of the bird song model, but recognize the characteristics of learning that make it a "model".

Chapter 52-- Population Biology: Again, concentrate on becoming familiar with basic vocabulary. Distinguish density from dispersion and recognize patterns. Be able to interpret survivorship curves and explain the life history pattern associated with each type of curve. Distinguish models of population growth and relate these types of limiting factors that control them. Skip over the mathematical formulas—except to recognize and define what each letter (r, K, etc) stands for.

Chapter 53--Community Ecology: This chapter contains *lots* of basic and important definitions, many of which should be familiar to you from Bio I (food chains, food webs, etc.). Make sure you know them all!!!! You may skim

the details of the Succession in Glacier Bay, but recognize the underlying patterns.

Chapter 54—Ecosystems: The entire chapter is important. Much of it should be familiar to you. We will do a required AP Lab on **Primary Productivity** early in the year so be sure you are clear on this concept (pages 1200-1205). The **Biogeochemical Cycles** are especially important and you must know them in detail, especially the **Nitrogen Cycle**.

Chapter 55—Conservation Biology: Again, many of the concepts in this Chapter will be familiar from your previous course in Biology. Make sure you are familiar with the goals of Conservation Biology, what challenges they present and the strategies appear to be successful in meeting them. Be familiar with the case studies.

Answer “Self Quiz” questions at the end of each chapter. I recognize that the answers are given in the book. For the Multiple Choice Questions, I expect you to explain why each is the correct answer based on having read the chapter. For the Short Answer Questions, I expect you to expand on the answer given in the book.

AP Biology draws heavily, especially in the first semester, on your Chemistry background.

Chapters 1, 2 & 3 in the Campbell text are a review of some very basic concepts of science and chemistry that you are expected to **know**. You are expected to spend a little time, in the last weeks before school starts, reviewing this material and answering the Chapter Questions. We will move into Chapter 4, which builds on Chapters 2 & 3, at the beginning of the fall semester.

Again, please have a notebook (I recommend a loose leaf binder) exclusively for AP Biology and have notes and Chapter Question answers ready for me to see on the **FIRST DAY of the 2006-2007 school year**.

In the meantime, have a **GREAT SUMMER**. I'm looking forward to seeing all of you next year.