



AP[®] Biology

Summer Assignment

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AP Biology Expectations & Summer Assignment

The intent of AP Biology is to provide you with the opportunity to acquire college credit while still attending high school. Therefore, the expectations exceed those of ordinary high school classes. You are being provided with the following information to ensure your success in AP Biology.

ACADEMIC EXPECTATIONS :

To ensure your success, I expect the following from each student prior to the first day of school next fall:

ALL STUDENTS: COME BY THE _____ HIGH SCHOOL FRONT OFFICE TO CHECK OUT YOUR BIOLOGY TEXT: Biology by authors Campbell & Reece, 6th ed. Books will start to become available during the last week or two of school and throughout the summer. They will NOT be available before this time as the current students will still have them.

- X Read Chapters 52-54 and outline each chapter (read and outline yourself!)- These outlines will be taken up for a quiz grade during the first week of school. About 2 fronts of a page per chapter should do it for "normal" handwriting.
- X You should also answer the 8 short answer and free response questions covering topics discussed in Ch.52-54. These too will be taken up for a quiz grade during the first week of school. Expect an actual quiz over these questions during the first week of school as well.
- X This course is replacing Biology I & II lecture for science majors and Biology I & II lab for science majors at the college level. If you were in college taking this course at a university, you would spend three hours per week in classroom lecture and ~3 hours per week in the lab for two semesters. Once a few classes are missed for state testing and such we actually have less time together than the college folks. We do a few ecology chapters in the summer in order to make up for lost time and finish the curriculum by middle of April and allow for a few weeks of review before the AP test in May.

EXPECTED COST:

- X Each student will be asked to purchase a review book (students will not need this until after Spring Break...so you can wait). I'll show you my copy on the first day of school so you know what to get. We have used Cliff's Biology in the past, we may be switching soon...I'll let you know on the first day of school.
- X The cost of the AP test is relatively minimal. If students score well enough they can receive between six and eight hours of credit. This can save THOUSANDS of dollars in tuition, fees books, and of course...time!

I take pride in working very hard and expect my students to do the same. This optimism and level of achievement is a direct result of the high expectations of this course. I look forward to seeing each of you in the fall. Have a great summer!!

AP Biology Summer Assignment Questions

Chapters referenced: Campbell 6th ed.

Ch.52- Population Ecology Ch.53- Community Ecology Ch.54- Ecosystems

If students do not have access textbooks over the summer, the teacher may encourage students to use the web.

Here a few sites to get students started:

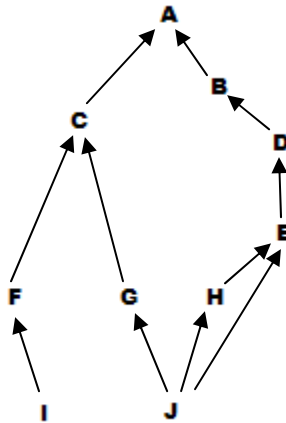
<http://www.otherwise.com/population/index.html> for logistical and exponential growth with animations

<http://www.washington.edu/research/pathbreakers/1969g.html> for a keystone species commentary

<http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/W/Welcome.html> for most everything else

Directions: Write answers on a separate piece of paper. Due during the first week of school in the fall.

1. Why is the logistical population growth model typically more representative of population growth over time when compared with exponential growth?
2. Carrying capacity is not a fixed value. Using examples, **explain** how it is possible for the environmental carrying capacity to change from one year to the next.
3. **Describe** the primary differences between a *K* strategist and an *r* strategist. One might think that one of these would be superior to the other, but this is not the case. **Explain** why this is the case citing ONE example for each.
4. **Discuss** the relationship between the following 4 interspecific interactions:
 - a) competition
 - b) predation
 - c) mutualism
 - d) commensalism
5. Coloration may be beneficial as a means to conceal, warn, or mimic. **Describe** an instance in which each of these adaptations occurs in nature and discuss the advantage(s) as it relates to each situation.
6. Dr. Caleb performed an experiment in which he removed the keystone species (species C) from the food web illustrated below.
 - a) **Describe** the effect that this will have on the population of species A in the short term.
 - b) **Explain** why the removal of this keystone species will result in the eventual collapse of the entire food web.



7. **Describe** the events that take place during both primary and secondary succession after a coniferous forest is burned completely in a large scale forest fire.

8. **Discuss** the flow of energy from producers through top carnivores and **explain** why it is that Earth might be able to sustain a greater human population if we were to eat more producers and fewer top carnivores.