**AP Biology Unit 2 Test Review Concepts**

* Understand the difference between a population, community and ecosystem.
* Understand the current trend in human population growth.
* Be able to calculate birth, death, and growth rates for a population and be able to describe whether a population is growing or shrinking.
* Be able to calculate the size of populations experiencing exponential or logistic growth.
* Understand why populations experience logistics growth.
* Know what carrying capacity is and how it impacts population growth.
* Understand the difference between density independent and density dependent limiting factors.
* Know the difference between abiotic and biotic components of an ecosystem.
* Understand the difference between R and K selected reproductive strategies and the benefits/disadvantages of each.
* Know the different factors that influence population size.
* Know the difference between a niche and a habitat.
* Know how niches influence interspecific competition.
* Know the different types of interspecific interactions and be able to state whether they have positive, negative or neutral effects of each of the species involved.
* Know the difference between batesian and mullerian mimicry.
* Given an example, be able to state the symbiotic relationship described.
* Know the importance of keystone species in a community.
* Know the different defense mechanisms both plants and animals have developed through evolution.
* Be able to read and interpret food chains and food webs.
* Be able to classify organisms based on their tropic level.
* Understand how each type of organism obtains its’ energy.
* Understand that energy is lost at each trophic level and be able to describe where that energy goes.
* Be able to calculate gross primary productivity if you know how much oxygen is created by a producer during photosynthesis.
* Know the Carbon, water, nitrogen and phosphorus cycle and the processes and organisms involved.
* Be able to calculate how much energy was originally available from a producer if you know how much energy is used in respiration and is transferred to consumers/stored in the plant’s biomass
* Understand predator-prey relationships.
* Know possible causes of a population to go extinct.
* Be able to read an energy pyramid.
* Be able to perform a chi square analysis of animal behavior.
* Understand the benefits of different animal behaviors on the survival of a species.