Ecology Study Guide

Honors Biology



**I CAN…**

* Relate the topics discussed regarding the **CT bear** population to the concepts learned during the ecology unit.
* Describe the different patterns of population **distribution** and **density** and the factors that cause them.
* Explain how ecologists define a **population** for study.
* **Calculate** population density.
* Distinguish between **density dependent** and **independent factors**.
* Express the changes in the size of a population through **mathematical equations** with variables for **births, deaths, immigration,** and **emigration**.
* Give examples of organisms for each type of **survivorship curve** and discuss several ways in which species compensate for low survivorship or manage to maintain high survivorship.
* Relate environmental factors such as **limited resources** and space to the growth and stabilization (**carrying capacity**) of a population.
* Explain the cyclic relationship between **predator** and **prey** population sizes.
* Identify and define the **three** types of symbiotic relationships.
* Differentiate between **inter-** and **intra-**specific competition.
* Describe the **flow of energy** through an ecosystem.
* Relate the processes of **respiration**, growth in **biomass,** and **waste production** to the flow of energy in a living organism.
* Identify the equations for **cellular respiration** and **photosynthesis** and how they are related to the energy cycle.
* Determine the **efficiency** of converting food potential energy into biomass for different organisms.
* Trace and **calculate the flow of energy** through an energy pyramid.
* Justify why ecosystems can only sustain a certain number of trophic levels.
* Explain why pyramids of number and biomass are not always a pyramid shape and why pyramid of biomass are a more accurate representation of ecological relationships.
* Create food chains and webs when given organisms in an ecosystem.

*What to review to help you prepare for this test*:

1. The Bears Are Back online activity (there will be a few questions on this)
2. All POGIL Activities
3. Notes from CH 35.1 & 35.2 and 36.1 & 36.2
4. Rabbit Population Activity
5. Yeast Lab (counting, graphing, questions)
6. All handouts/worksheets
7. Review Bozeman video



Can you explain each of these graphs/images?









