

ECOLOGY GUIDED READING

Sections: 2.9-2.12 , 29.1-29.7, and 30.5-30.16 in text

- What do ecologists study?
- List and describe in your own words the 4 levels of ecological organization.
- In your own words, describe what an ecosystem consists of.
- Explain what it means for energy to FLOW THROUGH and for materials(nutrients) to CYCLE WITHIN an ecosystem.
- Explain the terms exponential growth, carrying capacity, and sigmoidal growth in your own words.
- Draw and explain with words the difference between a population experiencing exponential growth and one that is experiencing sigmoidal growth.
- Contrast immigrants vs. emigrants.
- Explain the relationships between birth rate, death rate, and population growth.
- Contrast food web vs. food chain.
- Describe and provide an example from each of the levels shown below.
 - Producer
 - Primary consumer
 - Secondary consumer
 - Tertiary consumer
 - Detritivore
- Describe what it means for two organisms to be on the same trophic level. Provide an example of two organisms on the same trophic level.

- Contrast producer, herbivore, carnivore, omnivore, and decomposers(detritivores).
- Contrast Gross Primary Productivity, Net Primary Productivity, and Biomass.
- In your own words explain what it means for energy to flow through and ecosystem if you haven't done so well above!
- Explain why there is usually more members of the lowest trophic levels in an ecosystem than members of the higher trophic levels. Be specific concerning your discussion of energy loss!!
- Contrast inter-specific and intra-specific competition.
- Compare and contrast Competitive Exclusion with Resource Partitioning. Which one do you feel increases the level of biodiversity in a community?
- Contrast density-dependent and density-independent population growth limiting factors.
- Contrast commensalist, mutualist, and parasitic symbiotic relationships amongst different species.
- Contrast abiotic and biotic environmental factors.
- Describe and contrast coevolution and symbiosis.
- Contrast mutualism, commensalisms, and parasitism.
- Provide an example of mutualism, commensalisms, and parasitism.
- How does predation affect competition? Is it ecologically wise to reduce or eliminate the top predators - why or why not?
- What defenses have plants developed against their predators? What have herbivores done in response to this?

- What defenses have animals developed as inhibition for predators? What have carnivores done in response to this?
- Using your own words, explain mimicry.
- Contrast batesian and mullerian mimicry.
- Study and be able to explain how the birch/willow twig, snowshoe hare, and the Canadian lynx affect each others population levels. A graph may be helpful when explaining this!!