**Biology I Ecology Test Review**

*Refer to the following questions and vocabulary to help you to review for the test.*

* Required vocabulary: trophic level, autotrophs, producers, heterotrophs, a/biotic factor, habitat, niche, photosynthetic, chemosynthetic, detrivores, omnivores, decomposers, scavengers, herbivores, carnivores, transpiration, nitrogen fixation, denitrification, combustion, cellular respiration, photosynthesis, fossil fuels, deforestation, greenhouse gas, pioneer species, biological magnification/biomagnification, denitrification, limiting nutrient, eutrophication, abiotic/biotic factor, adaptation, ecosystem stability, plankton, phytoplankton, zooplankton, photic, aphotic zone, invasive species, population density, density dependent factor, density independent factor, competition, nonrenewable/renewable , sustainable development, immigration, emigration, non/renewable resource, acid rain, endangered species, and limiting factor.
* What is ecology?
	+ What is biodiversity?
		- What are some practices that can reduce biodiversity?
* What are the levels of ecological organization, from least inclusive to most inclusive?
* What is the difference between abiotic and biotic factors?
	+ Give an example of an abiotic factor.
	+ Give an example of a biotic factor
* What is the relationship between a habitat and a niche?
* How do producers and consumers obtain energy and nutrients?
	+ What are primary producers?
		- What are other applicable terms for producers?
		- Give an example
		- What 2 processes primary producers use to obtain energy?
			* What is chemosynthesis?
				+ What is an organism that engages in chemosynthesis?
	+ What are heterotrophs?
		- Give an example
		- What are other applicable terms for heterotrophs?
		- What is a detrivore?
			* Give an example
		- What is an omnivores?
			* Give an example
		- What is a decomposer?
			* Give an example
		- What is a scavenger?
			* Give an example
		- What is a herbivore?
			* Give an example
		- What is a carnivore?
			* Give an example
* How does energy flow through ecosystems?
	+ What is a food chain?
		- What do the arrows in a food chain represent?
		- Where can you find producers in a food chain?
		- What is a producer in aquatic ecosystem?
			* What is the relationship between phytoplankton and zooplankton?
	+ What is a food web?
	+ What is an ecological pyramid?
		- What are the 3 types of ecological pyramids?
		- What is a trophic level?
		- What percent of energy available at one trophic level is passed on to the next trophic level? Explain why.
* What is a biogeochemical cycle?
	+ Compare how matter moves through the biosphere as compared to the movement of energy in the biosphere
	+ Describe the movement of carbon throughout the carbon cycle
		- How is cellular respiration and photosynthesis related?
		- What is combustion?
		- How are fossil fuels, deforestation, and greenhouse gases related?
	+ Describe the movement of nitrogen throughout the nitrogen cycle
		- How is nitrogen fixation and denitrifying bacteria related?
		- What is denitrification?
		- What is eutrophication?
			* What is the effect of eutrophication on aquatic ecosystems?
* What is symbiosis?
	+ What are the 3 types of symbiosis?
		- Give an example of each
* What is ecological succession?
	+ What are 2 differences between primary and secondary succession?
	+ Which succession (primary or secondary) involves pioneer species?
		- What is a pioneer species?
		- What is a climax community?
	+ What is meant by the term- ecosystem stability?
* What are biomes?
	+ What abiotic factors play a large role in determining the biotic factors in a biome?
	+ What are examples of biomes?
	+ What are adaptations of organisms to various biomes?
		- Give examples of each organism adapted to a specific biome.
* What factors affect life in aquatic ecosystems?
	+ What are limiting factors in aquatic ecosystems?
		- What is a limiting factor?
	+ What is the photic zone?
		- What process do organisms engage in to obtain energy?
	+ What is the aphotic zone?
		- What process do organisms engage in to obtain energy?
* What is biological magnification/biomagnification?
	+ What is the effect of biomagnification on organisms at each trophic level?
* What is an invasive species?
	+ What is the effect of an invasive species on native populations?
* What factors affect population growth?
	+ What are density-dependent limiting factors?
		- Give an example
	+ What are density-independent limiting factors?
		- Give an example
	+ What is population density?
	+ What is immigration?
		- Does that increase or decrease population size?
	+ What is emigration?
		- Does that increase or decrease population size?
	+ Describe what happens during exponential growth
		- Give an example of exponential growth
	+ Describe what happens during a logistic growth curve
		- Give an example of a logistic growth curve
		- What is carrying capacity?
			* Does carrying capacity increase or decrease population size?
* What is an endangered species?
	+ Give an example
* What is a renewable resource?
	+ Give an example
* What is a nonrenewable resource?
	+ Give an example
* What is sustainable development?
	+ What is the effect of sustainable development?
* What is acid rain?
	+ Under what conditions does it form?
	+ What are some of its effects?