**Ecology**

1. Explain how births, death, emigration and immigration influence population size.
2. Analyze changes in population size and biodiversity (speciation and extinction) that result from the following: natural causes, changes in climate, human activity, and the introduction of non-native species.
3. Use a food web to identify and distinguish producers, consumers, and decomposers, and explain the transfer of energy through tropic levels. Describe how relationships among organisms (predation, parasitism, competition, commensalism, mutualism) add to the complexity of biological communities.
4. Explain how water, carbon, and nitrogen cycle between abiotic resources and organic matter in an ecosystem, and how oxygen cycles through photosynthesis and respiration.

**Vocabulary**

Individual organism

Population

Community

Ecosystem

Biome

Biosphere

Biodiversity

Ecosystem diversity

Births

Deaths

Immigration

Emigration

Population size

Food Web

Producers

Consumers

Detriovores

Decomposers

Predation

Parasitism

Competition

Commensalism

Mutualism

Water cycle

Carbon cycle

Nitrogen cycle