TOPIC 8.5- Community Ecology

Communities and ecosystems change on the basis of interactions among populations and disruptions to the environment.

1. Describe the structure of a community according to its species composition and diversity.
    - The structure of a community is measured and described in terms of species composition and species diversity.
        a. Relevant Equation: Simpson's Diversity Index
            1) Classify the variables in the following equation:

Diversity Index = $1 - \sum(\frac{n}{N})^2$

Where….

n=

N=

2. Explain how interactions within and among populations influence community structure.
    - Communities _____ over time depending on interactions between populations.
    - Interactions among populations determine how they access _____ and _____ within a community.
    - Relationships among interacting populations can be characterized by positive and negative effects and can be modeled.
        a. Examples include…. predator/prey interactions, trophic _____, and niche _____.
            1. Provide a real-life example of a predator/prey interaction:

            2. Define trophic cascade in your own words:

            3. Define niche partitioning in your own words:

- Competition, predation, and symbioses, including parasitism, mutualism, and commensalism, can drive population _____.
    a. Provide a real-life example of the following relationships:
        1. Parasitism-

        2. Mutualism-

        3. Commensalism-

3. Explain how community structure is related to energy availability in the environment.
   ~circle the correct choice in the following statement~
    - Cooperation or coordination between organisms, populations, and species can result in *(enhanced/diminished)* movement of, or access to, matter and energy.