Dr. Drantch

Living Environment

1. Heterotroph/Autotroph /Decomposer Relationships

2. Limiting Factors/Dynamic Equilibrium/Carrying Capacity

Introduction and Directions: Today in class we explored a variety of relationships among organisms found in any balanced ecosystem. Next, you applied your knowledge by creating a concept map demonstrating an understanding of the relationships between and among autotrophs, heterotrophs and decomposers. The project you will produce represents an extension of the classroom assignment. Successful completion of the project will require you to create another concept map outlining autotrophic, heterotrophic and decomposer relationships by using pictures or photographs of the organisms you’ve selected. You may acquire pictures of organisms from the internet, periodicals (magazines, newspapers), photographs you’ve taken or, if you’re a good artist, hand drawings of the organisms. The pictures may be placed onto poster board, into an album or on oak tag; the choice is yours.

Regardless of the pictures’ source, you must add a caption under each that clearly identifies the organism, the general category to which it belongs and the sub-category it may also occupy. Once this part of the project is complete, answer the following questions in full sentences.

1. How is an environment’s carrying capacity related to abiotic and biotic factors?

2. “Living organisms have the capacity to produce populations of unlimited size, but available resources in their environments are finite”. Analyze this statement using dynamic equilibrium, carrying capacity and limiting factors.

3. Sketch a graph showing the relationship between carrying capacity, limiting factors and dynamic equilibrium. Be sure to label the axes and the parts of the graph.

4. Decomposers are organisms that live in the soil and break down dead organic matter into smaller molecules. Explain their value in maintaining a strong ecosystem and why these organisms are known as natural recyclers