Finding Abiotic and Biotic Factors

Resources

Start by looking at the web page *Difference between Abiotic and Biotic Factors* <*http://www.moomoomath.com/biotic-abiotic-factors-ecosystem.html*>. Watch the short (2:06) video at the top of the page for some rough examples and read the page as a refresher. Based on this information, and the seminar notes you have taken, begin your research for the project detailed below.

Use *Google* or some other search engine to look for specific information. When searching, focus on specific key words. Remember that double quotes will tie words together as phrases. For example, if you want to find out about the abiotic factors involved in Vancouver Island's temperate rainforest, search for: *"abiotic factors" "temperate rainforest" "Vancouver Island"* (include the quotes).

Instructions

Pick an ecosystem to research and clearly define what it is. For example, if you choose the Great Bear Rainforest are you looking at:
- the land only?
- the rivers and lakes only?
- the ocean only?
- the all three?

For your ecosystem

1. List at least 20 abiotic factors in the ecosystem.
   - Be specific. For example, the pH of the water and the temperature of the water would be 2 separate factors.
   - Make sure your list is varied. Choose items from at least 3 of the 4 major categories (aquatic, atmospheric, topographic and edaphic factors)
2. List at least 20 biotic factors in the ecosystem.
   - Be specific. Give the common names of separate species, for example you should list Douglas fir & white pine. Instead of just listing "trees".
   - Make sure your list is varied. Choose species that represent the five major categories of life, animals, plants, fungi, protists and bacteria. This variety will depend on your ecosystem; high-altitude alpine meadows won't have any fish, but coral reefs will contain many varieties of life beyond fish.
   - Make sure your list includes a variety of size ranges and types. For example, the animals in a system could include grizzly bears, robins, green tree frogs and black-legged ticks.
3. Choose three different abiotic factors that you listed in step 1. For each factor, describe what would happen to some of the biotic components of the ecosystem if that factor *either* increased or decreased (not both).
   - For this, examples of searches would be things like "effect of decreasing pH on coho salmon", or "or effect of increasing temperature on emperor penguins".
   - For each abiotic factor, describe the effect of the change on three of the biotic factors of the ecosystem.
   - The biotic factors effected can be the same or different for each of the abiotic factors.

Handing in

In your group, decide on the one member who will collect all of the information gathered by the group and type it into a single *Word*, *Pages*, or *OpenOffice* document. It would be fair if that person does less of the research in order to balance the workload.

When you are finished, email the assignment to <tparker@sd79.bc.ca>. Make sure that the names of all group members are included in the document.

This assignment is due on Wed. Sept. 18th, the same day as the LG 1-3 in-class test. As this is a paced course, and as in the world of research and environmental action deadlines are important, timeliness is a criterion. 10 of the 61 points (16%) rely on the assignment being submitted on time. Assignments that are submitted on time earn 10/10 for timeliness. Assignments up to 2 class days late will score 5/10 for timeliness. Assignments more than 2 class days late will score 0/10 for timeliness.

Marking Criteria

type of ecosystem is clearly defined ..... 3 pts

a detailed list of at least 20 abiotic components is provided ..... 10 pts

abiotic factors include items from at least 3 of the 4 major categories..... 3 pts

A detailed list of at least 20 biotic components is provided ..... 10 pts

biotic factors include items from at least 4 of the 5 major categories..... 4 pts

biotic factors include all size ranges present..... 3 pts

effect of changing abiotic factors on ecosystem biotic components ..... 18 pts

assignment is handed in on time..... 10 pts

total 61 pts