AMI Project Research and Proposal

Field Ecology

For this project, we will work together as a class to collect data about the aquatic macroinvertebrates of Jackson Creek. Our goal will be to evaluate the correlation between the diversity of AMI's and one other measureable abiotic or biotic factor of the creek. The work you do today will direct you to one possible question we could study. You should work individually on this assignment. Your research should come from reliable sources on the Web (Wikipedia is fine for this type of research). When you are done, please submit your work through Google Classroom.

Research for Project:

1. As we've briefly looked at in class, there is a strong link between aquatic macroinvertebrates and water quality. Investigate this relationship by answering the following questions:
    a. Why are AMI's so sensitive to changes in water quality? (In other words, what is it about their biology that leaves them vulnerable to poor water quality?)
    b. Of the aquatic macroinvertebrates that we looked at (caddisflies, mayflies, stoneflies, dragonflies, true flies, and snails), which are most sensitive to poor water quality? Which are most tolerant to water quality?

2. What is the *ecological* meaning of the word "diversity"? (There are lots of non-ecological meanings – you need to find the specific meaning that ecologists use when they are discussing the abundance of different species or groups of organisms.)

3. What are some different types of biotic or abiotic factors that might interact with aquatic macroinvertebrates? List at least five examples of each type of factor (you can use the information you found in the previous assignment this week if you were able to answer that question.)

Brainstorming for "What is the Relationship Between" Question:

4. Our question will have the diversity of aquatic macroinvertebrates as one of our factors. What are some ideas you can think of for the second factor of our question? Use your answers from question 3 above; add measuring words to these factors in order to create questions. List at least five WITRB questions that seem reasonable for our class to study.

5. Pick the best (most realistic and most interesting) question you came up with. Write this question below along with a short explanation of why you think this would be the best question for our class to address.