Agenda for Wednesday, December 2nd 2015

Agenda	Homework
1. SDRO Life Cycle Project	- All data, graphs, and scripts must be completed for the Fast Plant by tomorrow.

Which NGSS practices, DCIs, and CCs are we meeting?	
Science and Engineering Practices • Conduct explanations supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories. • Use an oral and written argument supported by evidence to support or refute an explanation or a model for a phenomenon • Develop and use models to describe systems. • Obtain, evaluate, and communicate information. **Crosscutting Concepts** • Cause and effect • Structure and Function • Energy and Matter • Systems and Systems Models	**Disciplinary Core Ideas** • LS1.B: All organisms grow, develop, and reproduce. • LS1.C: All organisms obtain and use the matter and energy they need to live and grow. • LS1.D: Sense receptors respond to different inputs. • LS2.A: Organisms are dependent on their environmental interactions both with other living things and nonliving factors. • LS2.B: Matter and Energy move through an ecosystem. • PS3.D: Chemical reactions in plants produce complex food molecules; plants and animals release energy stored in food.

Why are we doing this?
We have spent considerable time studying our Fast Plants and cabbage white butterflies. Today we begin a 2-week long project closely examining three characteristics of these organisms: how they have grown and developed, how they have obtained and used energy, and how they have reproduced. This project will show us that these organisms, like all others, have the same characteristics; albeit, they meet these characteristics in different ways.

A Few Answers to Questions

- **How many graphs do we need?** The Fast Plant requires 5 graphs: 1) nutrient solution (showing amounts remaining and added), 2) height and change in height, and 3) quantity of flowers, leaves, and other data (ex: flower buds, seed pods, etc.). Graphs 2 and 3 will be done a second time for your other Fast Plant.

Today's Procedure

Part 1: Finishing Data Analysis

1. All Fast Plant data tables must be completed already. If you haven't completed all data tables, get it done! You are behind if your data tables aren't done.
2. All graphs need to be completed before the end of class in addition to your scripts.

3. Your graphs must have the following components:
    a. Title (this clearly states what the graph is about)
    b. Labeled axes (this lets the viewer know what is on the X and Y axes)
    c. Labeled bars/lines (Google should do this automatically, let me know if it doesn't and you need help)
4. Once your graphs are completed, write a script that verbalizes what the graphs are showing. Don't go overboard with detail! Remember, you only have 3-5 minutes for this entire video. A good script would tell the viewer:
    a. What you did to collect the data,
    b. What the graph is showing, and
    c. What you can conclude from the graph.
5. Here's an example of a script that could have been written for the butterfly poop lab.
    a. *In our investigation we counted the total number of droppings for each color of butterfly poop: red, green, blue, and yellow. We made this bar graph so we could visualize the differences between the total number of each color. This graph shows that blue is the most common color and yellow is the second most common. We can conclude from this data and our graph that the butterflies have a preference for blue- and yellow-colored food.*
6. If you have time, have your graphs and scripts reviewed by another pair of people to ensure that you chose the appropriate type of graph, your graph meets the three components in step 2, and your script meets the three components of step 3.
7. If you have time still, read pp. 36-39 in the SDRO textbook. This will familiarize you with the life cycle of a plant similar to the Fast Plant. Questions to consider (but are not limited to):
    a. Break apart the life cycle of the Fast Plant into stages. What would they be? (Ex: a human life cycle could be broken down into fetus, infant, toddler, teen, adult or similar). This is for you to decide: if you wanted to show the life cycle of the Fast Plant, what would you say are it's distinct (separate) stages of life?
    b. How will you show this life cycle in your presentation? What pictures will you use? How will you show the differences in the stages of the Fast Plant in each part of its life cycle?