**Unit 1: Intro to Biology and Classification**

**References: Textbook Ch. 1, and 17**

**Quiz Dates: \_\_\_\_\_\_\_\_\_\_\_\_\_ Test Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**A: Biology as a Science**

1. Watch the video at <https://www.youtube.com/watch?v=KIFz_-KzURY> while looking at page 17 in your textbook. Use this information to answer the following:
   1. What are the steps of the scientific method?
   2. What is a control and how do you set one up?
   3. What do you do if you conclude that your hypothesis is invalid?
2. Distinguish between qualitative and quantitative data. Thinking about your Homeostasis Experiment (Part C) would your data be qualitative or quantitative?
3. Distinguish between dependent and independent variables. Thinking about your Homeostasis Experiment (Part C) what are your variables?
4. A. Create a procedure for an experiment for your Homeostasis Experiment. Recall that your experiment must include: Measurements of the intensity of exercise and the destabilization of oxygen levels.

B. Determine the time limits during which you will collect data (must be completed during a class period tomorrow)

C. Explain how you will observe negative feedback with your experiment and data?

**B: Hierarchy of Living Things**

1. List the hierarchy of living things we have been discussing in class.
2. We have been discussing multicellular organisms in class as examples. Give examples of two unicellular organisms.
3. What parts of the hierarchy apply to unicellular organisms?
4. How do unicellular organisms carry out the following life functions (be specific by naming processes and organelles):
   1. Transport
   2. Obtaining food/Digestion
   3. Reproduction
   4. Growth/Development

**C: Classification and Nomenclature**

1. Define Classification and Taxonomy.
2. List the levels of classification and make your own mnemonic device to help you remember these steps in order.
3. Answer the following questions using your knowledge of naming and classification as well as this webpage <http://www.butterflyboutique.net/articles/articles_scientific-names.html> :
   1. What is the scientific name of the Monarch Butterfly?
   2. What level(s) of classification does the Monarch Butterfly have in common with humans?
   3. Name one other insect in the same order as the Monarch Butterfly.
   4. What domain would the Monarch Butterfly be classified under?
4. Complete Problem-solving lab 17.1 on pg. 447

**D: The 6 Kingdoms**

1. Fill out the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| Domain | Kingdom | Characteristics | Example |
|  | Archaebacteria |  |  |
|  | Eubacteria |  |  |
|  | Protista |  |  |
|  | Fungi |  |  |
|  | Plantae |  |  |
|  | Animalia |  |  |

1. Use the information from the table to create a tree diagram for the 6 kingdoms like the one you see on page 461 in your book. According to your tree:
   1. Which 2 groups of organisms are most similar? How do you know?
   2. Which 2 groups of organisms are least similar? How do you know?
2. Watch the video at: <https://www.youtube.com/watch?v=wpKulkADzBk>. Using the tree you created for #2 and what you learn in the video, create a dichotomous key for the 6 kingdoms.