Name_____Date_____Hour_____

Unit 1:Biological Principles Review

1. Identify the following SI base units of measure and a tool in which you could use to measure each
   a. Distance Unit _____ Tool to measure _____
   b. Volume _____ Tool to measure _____
   c. Time _____ Tool to measure _____
   d. Mass _____ Tool to measure _____

2. Calculate how many mL of water are in a 3.7 liter sample?

3. Suzie Q wants to know the effect of different colors of light on the growth of plants. She believes that plants can survive best in white light. She buys 5 ferns of the same species, which are all approximately the same age and height. She places one in white light, one in blue light, one in green light, one in red light and one in the closet. All of the ferns are planted in Miracle-Grow and given 20 mL of water once a day for 2 weeks. After the two weeks, Suzie observes the plants and makes measurements.

   a. Write a hypothesis for Suzie Q.

   b. What is the independent variable?_____

   c. What is the dependent variable?_____

   d. List one controlled variable for this experiment.

   e. Give an example/examples of qualitative data Suzie Q could get from her experiment.

   f. Give an example/examples of quantitative data Suzie Q could get from her experiment.

4. List and explain the 8 characteristics of life.

   A.

   B.

   C.

   D.

   E.

   F.

   G.

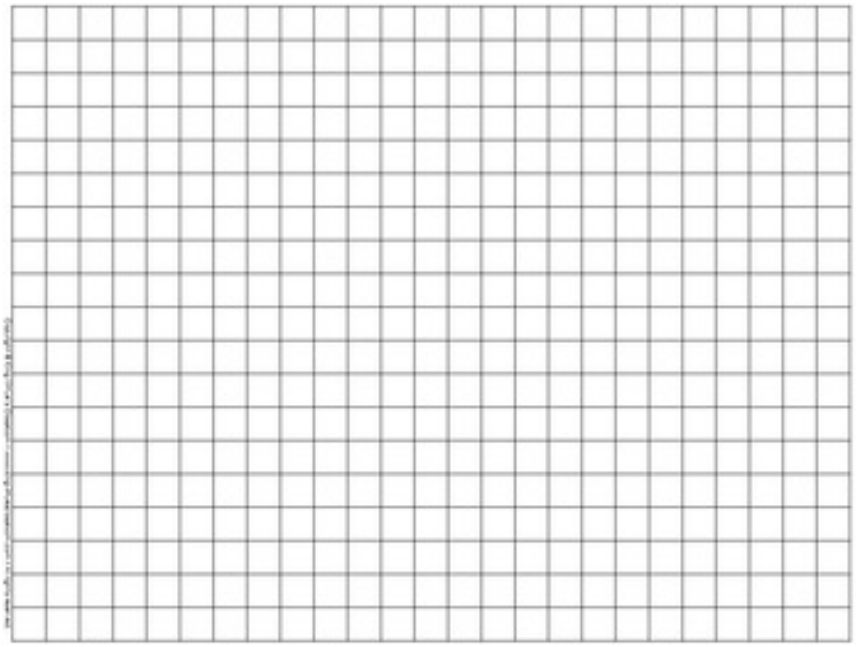
   H.

5. Based on the data table, create the most appropriate graph and **<u>draw a conclusion</u>** from what you see. ***Use all graphing checklist items.***

Conclusion -

Water Temperatures at Various Depths

Water Depth (meters)	**Temperature** (°C)
50	18
75	15
100	12
150	5
200	4



6. *List the four main biomolecules that make up living things.*

I. *II.* *III.* *IV.*

7. One of the distinguishing characteristics of life, is that all organisms have a metabolism. In other words, all organisms can acquire and utilize energy. But not all organisms have the same metabolism. For example, when you exercise, you use more or less energy depending on your body mass. Below are data collected from a recent experiment conducted at Brown University. The table summarizes the energy burned (as calories) after 30 minutes of exercise.

1. Examine the results in the table and determine what conclusions can be drawn. Do these results make sense? Defend and explain your answer.

Body Mass	Cycling	Playing Basketball	Watching TV
30 kg	60 calories	120 calories	21 calories
40 kg	77 calories	164 calories	27 calories
50 kg	95 calories	206 calories	33 calories
60 kg	114 calories	248 calories	38 calories