Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 1 Study Guide  
  
Characteristics of Life:**

1. *Identify the characteristics of life for each of the following.*

\_\_\_\_\_\_\_\_\_ When you go from a light room into a dark room, your pupils get bigger to let more light into your eyes.

\_\_\_\_\_\_\_\_\_ A caterpillar changes into a butterfly.

\_\_\_\_\_\_\_\_\_ You have a Big Mac for lunch so you can make it through 4th period.

\_\_\_\_\_\_\_\_\_ A human contains over a trillion cells.

\_\_\_\_\_\_\_\_\_ A turtle buries over 200 eggs in the sand at the beach.

1. What is the difference between an Autotroph and Heterotroph?
2. What is homeostasis? (give an example)

**Designing an Experiment:**

a. dependent variable

b. experimental group

c. independent variable

d. experiment

e. control group

1. *Match the correct vocabulary word to the description*  
   \_\_\_\_ a. A procedure that tests a hypothesis by collecting   
   information under controlled conditions.

\_\_\_\_ b. In an experiment, the group in which all conditions are kept the   
same except for the one being tested

\_\_\_\_ c. In an experiment, the group in which all conditions are kept   
the same

\_\_\_\_ d. The condition that is changed by the person doing the experiment

\_\_\_\_ e. The condition being observed or measured in an experiment

1. What is the difference between a Theory and Law?
2. *Read the following experiment and identify the following parts:*

Students wanted to test if the color of light increased plant growth. They grew 3 plants; 1 in white light, 1 in red light, & 1 in green light. After a month they measured the height of the plant.

Independent variable -

Dependent variable -

Experimental group -

Control group -

1. Label the 6 steps to the Scientific Method below.

\_\_\_\_\_\_\_\_\_\_\_\_\_ Rhianna noticed that her Orbit gum flavor lasted longer than her Juicy juice gum.

\_\_\_\_\_\_\_\_\_\_\_\_\_ She looked up how long the gum should last on the company website.

\_\_\_\_\_\_\_\_\_\_\_\_\_ Rhianna stated that “I think Orbit gum has the longest lasting flavor over other gums.”

\_\_\_\_\_\_\_\_\_\_\_\_\_ Rhianna chewed 5 different gums for 15 mins. She documented the flavor at the beginning and at the end.

\_\_\_\_\_\_\_\_\_\_\_\_\_ Rhianna and her friend Drake noticed in the data that the Extra still tasted great after 15 mins, but Orbit stopped at after 12 mins.

\_\_\_\_\_\_\_\_\_\_\_\_\_ Rhianna decided to start buying Extra gum because of the long lasting flavor.

**Safety**

1. *What safety equipment would you use in the following situation?*

\_\_\_\_\_\_\_\_\_\_\_\_ An overhead projector catches on fire.

\_\_\_\_\_\_\_\_\_\_\_\_ Drake splashes chemicals into his eyes.

\_\_\_\_\_\_\_\_\_\_\_\_ Elvis catches on fire.

\_\_\_\_\_\_\_\_\_\_\_\_ Everyone must wear these during labs.

1. When can you eat and drink in the lab?

**Graphing**

1. Create a Line Graph using the following information and answer questions. (make it a good graph)

|  |  |  |
| --- | --- | --- |
| Time (days) | Red light | White light |
| 1 | 0 | 2“ |
| 2 | 1“ | 4” |
| 3 | 3” | 6” |
| 4 | 4” | 8" |

Which light showed more plant growth?

What do you think would happen to the white light plant on month 5?

**Lab Tools**

1. *What lab tools would you use to complete the following task?*

\_\_\_\_\_\_\_\_ Hold liquids

\_\_\_\_\_\_\_\_ Hold and mix liquids

\_\_\_\_\_\_\_\_ Measure an accurate amount of liquids

\_\_\_\_\_\_\_\_ Hold a small amount of liquids

\_\_\_\_\_\_\_\_ Measure the mass of an object in grams.

**Observations**

1. The elephant weighed 2 tons is an example of which type of data?
2. The kittens were fuzzy and brown is an example of which type of data?
3. What is the difference between and observation and inference?