**Parts of a Controlled Experiment: reading questions**

*Directions: Answer the following questions after reading about the Parts of a Controlled Experiment. Either write and answer the questions on page 4 of your notebook or print this paper, answer the questions and glue the paper on page 4 of your notebook.*

1. What is a variable in a controlled experiment?

2. What is the difference between a quantitative versus a qualitative variable?

3. A. How many variables are changed/tested at a time in a controlled experiment?

B. Why is this important? (Hint: what happens if too many factors are tested at one time?)

4. In a controlled experiment there are two main groups: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ group and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ group.

5. Match the groups in a controlled experiment with its definition:

\_\_\_\_\_\_ Control Group A. Part of the experiment where only one factor is changed.

\_\_\_\_\_\_ Experimental Group B. Part of the experiment left as close to natural or unchanged as possible.

6. Which group is not changed and thus can be used to compare results of the experiment?

7. Match the groups in a controlled experiment with its examples:

\_\_\_\_\_\_ Control Group A. group of monkeys that do not receive the experimental medication

\_\_\_\_\_\_ Experimental Group B. group of monkeys receiving an experimental medication

8. In this example experiment, why would a scientist use two groups of monkeys: one group that do not receive a medication and a group that do receive medication?

9. Match the factors of the experimental group in a controlled experiment with its definition:

\_\_\_\_\_\_\_ Control factor A. All the things in the experiment that are kept the same between the control and experimental groups

\_\_\_\_\_\_\_ Experimental factor B. ONE thing different between the control and experimental groups

10. Match the factors of the experimental group with its example:

\_\_\_\_\_\_\_ Control factor A. The amount of experimental medication given to the monkeys

\_\_\_\_\_\_\_ Experimental factor B. Everything kept the same between the two groups including: the type of monkeys used, the amount of food and water given to the monkey, the surroundings of the monkey, etc.

11. Independent variable:

A. What is it?

B. Which axis is it graphed on?

C. Examples:

12. Dependent variable:

A. What is it?

B. Which axis is it graphed on?

13. Another way to look at independent and dependent variables:

What a scientist does in the experiment is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ variable and the results of the experiment is the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ variable.

14. On the graph, write the independent variable and dependent variable examples on the correct part of the graph:

* amount of experimental medication given to the monkeys
* the effects of the medication on the monkey