Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_\_\_

Experimental Design Quiz 1

Part 1: Label the steps of the scientific method below (1-5) in the order that they occurs. 1 represents what would happen first and 5 represents the last step.

\_\_\_\_Form a hypothesis

\_\_\_\_\_Analyze Data/ Draw a conclusion

\_\_\_\_\_Make an observation and pose a question

\_\_\_\_\_Make a prediction

\_\_\_\_\_Design an experiment

Part 2: Fill in the blank using the word bank provided. Words may be used once, more than once or not at all.

Prediction Scientific Theory Experimental Group Qualitative Controlled Experiment Independent Variable Bias

Control Group Quantitative Dependent Variable Hypothesis

1. When designing an experiment scientists make a statement that forecasts what would happen if the hypothesis were true this is called the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. In order to determine this scientists design a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If the experiment is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_it will have a(n)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or the group that provides a standard for comparison.
2. Also, the scientists will have another group called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which has the changed factor or the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ applied to it. When collecting the data scientist will measure or count how the independent variable responds. The measured or counted variable is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. During the experimentation the scientist will collect two types of data: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or data that is measurable with instruments or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which is gathered through your senses.
4. After all of the data collection, analysis and repeatedly testing scientists may be able to acquire a well-substantiated explanation of some aspect of the natural world called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.