Experiment Basics Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Core: \_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

* There are \_\_\_\_\_\_\_\_\_\_ types of data:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ data: numbers, are obtained by *counting or measuring*
    - Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ data: descriptions, involve characteristics that cannot be counted
    - Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Designing a Controlled Experiment:
  + The factors in an experiment that can be changed are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ experiment works with only **one variable at a time**. If several variables were changed at the same time, the scientist would not know which one was responsible for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ results.
  + All other variables should be unchanged, or “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.”
  + An experiment is based on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between a control group and an experimental group.
    - These two groups are identical except \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    - The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ group serves as the comparison. It is the same as the experiment group, except that the one variable being tested is \_\_\_\_\_\_\_\_\_\_\_\_\_.
    - The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ group shows us the effect of the variable that is being tested.
* Example: *In order to test the effectiveness of a new vaccine, 50 volunteers are selected and divided into two groups. One group will be the control group and the other will be the experimental group. Both groups are given a pill to take that is identical in size, shape, color, and texture.*
  + Describe the control group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Describe the experimental group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + What variables are kept **constant**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + What variable is being changed? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_