**Scientific Inquiry Study Guide**

* **Steps in the scientific method**
* **Types of variables**

Independent, dependent, constant, control

* **Graphing**

Which axis holds the independent variable, which axis holds the dependent variable?

-equal spacing (intervals), title, units of measure

-When is the appropriate time to use a line graph, pie chart, bar graph

* **Conduct scientific experiments and identify possible errors**

What is a control?

What is a constant?

What is the independent variable?

What is the dependent variable?

Be able to identify the control vs. experimental groups

What is the difference between accuracy and precision?

What was the dependent variable and independent variables in the following labs?

* Senses lab
* Heart Rate Lab
* King’s hand lab

Mr. Browne decides that he wants to figure out the degree that miracle grow fertilizer helps plants grow. He sets up two groups. Both groups are set in the same environment and they both receive the same amount of sunlight. He measures both sets of plants at the beginning of the experiment. He then pours miracle grow on both sets of plants. He waits for a period of two weeks giving both sets of plants the same amount of water. After two weeks has passed Mr. Browne measures the height of the plants.

What are some of the controls in the experiment?

What is something that Mr. Browne should do different to make the experiment valid?

What is the independent (or manipulated) variable in this experiment?

What is the dependent variable in this experiment?

Mrs. Browne wants to make Mr. Browne some brownies. She’s not sure if it’s better to add eggs to the mix or to add egg whites. She pours both into the mix, and bakes two batches of brownies.

What is wrong with the experiment?

What should the independent variable be?

What should the dependent variable be?

Mr. Browne wants to see if a new car soap Mr. Haren gave him will help him get his dirty car clean. (He is finally taking the hint of people writing “wash me” on his windows). He places the cleaner from Mr. Haren on half of his car and his regular cleaner on the other half. After washing the car, the car with Mr. Haren’s cleaner looks noticeably cleaner.

What is the independent variable?

What is the dependent variable?

What should Mr. Browne’s conclusion be?

What is the constant in this experiment?

What is the control in this experiment?

What is the experimental group?

Mr. Browne gave a quiz. 5 students took the quiz. The quiz was out of 30 points. The raw scores were 22, 30, 18, 25, 27. What was the average score? What would be the best graph to use to visually show the raw scores?