**Notes: The Scientific Method**

\*The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ involves a series of steps that are used to investigate a natural occurrence

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Develop a question or problem that can be solved through experimentation.

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Make observations and research your topic of interest.

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Predict a possible answer to the problem or question.

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_soil temperatures rise, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_plant growth will increase.

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Develop and follow a procedure.

Include a detailed materials list.

The outcome must be measurable (quantifiable).

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Modify the procedure if needed.

Confirm the results by retesting.

Include tables, graphs, and photographs.

6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: Include a statement that accepts or rejects the hypothesis.

Make recommendations for further study and possible improvements to the procedure.

**Constants**

The constants in an experiment are all the factors that the experimenter attempts to keep the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Independent Variable**

The independent, or manipulated variable, is a factor that’s intentionally \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_by the experimenter.

**Control Group**

The control group is exposed to the same conditions as the experimental group, except for the variable being tested.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ experiments should have a control group.

**Put the following steps of the scientific method in order (Number them 1-6)**

* Conclusion
* Hypothesis
* Experiment
* Observation/research
* Problem/question
* Collect and analyze data