

Science Fair Notebook

Follow this process as you go through the experiment and as you complete your notebook. All pages in the notebook should be typed.

***Title Page** – This should be centered in the middle of the page.

***Table of Contents** – written with page numbers (Each page of your report except the title page should have page numbers).

***Statement of the Problem** – This poses a question with one variable that tells what the investigation will solve. This serves as the purpose of the investigation.

***Background Information** – This is a summary report of all the information researched. You should include at least three different sources to gain information about the topic. Use handout to record notes. This summary should be approximately one page.

***Hypothesis** – This is an if/then statement that tells what is thought is likely to happen based upon the background information.

***Materials** – This is a list of all materials needed for the investigation including quantities.

***Identifying Variables** – These are all the things in the investigation that can stay the same (constant) or change under different conditions.

- a. **Manipulated Variable (Independent)** – what is changed on purpose in an investigation.
- b. **Responding Variable (Dependent)** – what changes by itself because you manipulated (changed) something in your investigation? This is what you will observe.
- c. **Constants/control**– everything else in the investigation that stays constant (kept the same).

***Procedure** – This is a step-by-step set of directions about how to do the investigation. You do not need to state the obvious such as take cup out of cupboard.

***Data Collection and Observations** – This is information gathered during the investigation that shows what happened. Record your data using charts, tables, graphs, and written observations. You can include data about what you saw, unusual things that happened, things you might change if you did this again, or drawings and pictures. The more data there is, the more accurate your conclusion will be. Your investigation needs to be repeated at least three times.

***Data Analysis** – Analyze and interpret your data by organizing it with words based upon patterns or relationships you see. Some questions to consider are:

- a. What patterns or relationships do I see?
- b. In what ways does .. compare or contrast with...?
- c. What seemed to be the effect of ...?
- d. What assumptions were made?
- e. What generalizations can I make?
- f. How can I explain the results?
- g. What evidence can I find that accepts or rejects my hypothesis?
- h. What inferences can I make?
- i. What conclusions can be drawn?

***Conclusion** – This is a statement that is not a fact but an inference based on fact. A conclusion is a written summary that includes the evidence that accepts or supports your hypothesis or rejects the hypothesis. It should also include an explanation why. You can also include any problems or unusual events that occurred during the investigation.

***Recommendations** – This is a statement about what might be done differently, what new ideas have come from this experiment, any problems you may have had with variables and if more trials are needed.

Acknowledgements – List any people who helped with the investigation and explain what they did to help.

Bibliography – List all of the resources that were used to gather information about the topic. These resources must be written as shown on the Bibliography sample page.

All sections need to be included in the notebook. Only include starred sections on the display board.