The Science Fair Research Paper

Follow the format below for organizing and writing your research paper. Each numbered item should begin on a separate page.

1. Title Page: Project Title, Your Full Name & Date Submitted

2. Purpose/Question: Explain the question you will answer in your project and the purpose for investigating this question. (Example: How does the temperature of a honey affect its viscosity?)

3. Variables, Constants and Control: List your manipulated variable (what you change), your responding variable (what you measure that changes based on your change , your constants (what must stay the same), and the control group (what you are comparing the experimental group to).

4. Research Section: Restate in your own words all the information you found out about your topic before you began your experiment. The research section should follow the 5-paragraph format that was provided in class, and should include information about the branch of science your project falls under, a famous scientist who studied this area of science, the related science concepts, and specific vocabulary.

5. Hypothesis: The hypothesis is a written statement that concerns your prediction as to how the manipulated variable will affect the responding variable. This should be in an if-then format.

6. Materials List/Procedures (Experimental Design): The material list should include everything you used to complete your project. The procedures should follow a step by step format. The procedures should be detailed and explain all safety protocols that were followed to protect the experimenter and the community. If chemicals are used, discuss the safe handling and disposal of the chemicals.

7. Data & Graphs: Once the experiment starts all possible data should be collected and recorded in the logbook. For the report, organize this data into charts, tables and graphs. Use line graphs whenever possible and the metric system at all times.

8. Conclusion: Follow a three paragraph format to ensure the conclusion is thorough. The first paragraph is a discussion of the hypothesis and data. Restate the hypothesis and decide if the data supported this statement or did not support it. Retell the data using the numbers, and/or your analysis of the numbers such as the mean, median or mode. State your inference concerning why the data turned out the way it did. The second paragraph discusses the problems or concerns you had during the experiment. Include new ideas that came to you that you might use as the basis of a science project in the future, or ways to change this idea to use in the future. The last paragraph states what you learned as the result of this project. Include any observations you made as to how this information can be applied to real life.

9. Works Cited: Using MLA style, document all books, magazines or electronic information sources that you used for your review of literature. Your entries should be listed in alphabetical order according to the first word in the citation

Science Fair Conclusion

Use the following format to put together the conclusion for your Science Fair project.

The conclusion should summarize all that you have learned from completing the project. It must be 3 paragraphs, and each paragraph should include 4-5 sentences.

1st paragraph State the hypothesis and evaluate the hypothesis by explaining whether or not the data supported the hypothesis. Describe your results (use your averages) and write an inference (your guess based on observations) as to what the results mean, or why the data turned out the way it did.

2nd paragraph Describe all problems you encountered while you completed your project. Explain any new ideas that came to you while you were working on this project? (You can think of something – how to shorten it, make it better?) Describe any plans you may have for next year’s project.

3rd paragraph Explain how what you learned applies to real life (summarize some information from the last paragraph of your research section of the research paper). How did your process accomplish your purpose in the project? If you need to alter your process explain why – and how you would do it.