**Notebook/Final Report**

**Step 1. Keep a Logbook**

Your logbook may be the single most important part of the documentation of your project. Use a marble composition book (preferred) or another book that is bound so that your pages are kept in order. Write EVERYTHING that you do into your logbook. Start with your topic selection and the rough draft of your research plan, and then add notes as you think of items. List all materials you use. Write down any thoughts or things you discover. VERY IMPORTANT: Date every entry you make in your logbook. Be sure to record ALL data from your experiments in your logbook with the date.

 The logbook is meant to be a diary of every single thing you did and thought during the process of your investigation. It should NOT be typed. It should be in the researcher’s handwriting. A logbook can never have too much information – it is a record of your thought process as well as your experimental process.

**Step 2. Conduct Testing**

 Conduct your testing making sure to follow any necessary safety procedures. Repeat your testing several times if possible. Be sure to record ALL of your data and anything you notice in your logbook. Be as accurate with measurements as you can. Use ONLY metric measurements (SI Units).

 Follow your research plan as closely as possible. Be sure to maintain your controlled variables. Again – record EVERYTHING in your Logbook.

 Repeat your experiment 3-10 times (testing may be simultaneous – for example, grow a total of 30 plants – one group with variable 1, one group with variable 2, and a control group).

 ALL measurements must be in SI Units (Metric).

**Step 3. Analyze Data and Draw Conclusions**

 Use the data you recorded in your logbook to make tables and graphs, then determine your conclusions. Your graphs should clearly show the results of your testing. Your variables should be clearly graphed – the independent variable along the horizontal (bottom across) axis, and the dependent variable on the vertical (left upward). This will make your data show the results most clearly.

 Looking at your data, you should describe any trends or results that you have shown. Draw conclusions regarding your data – include discussion of your original hypothesis and how your data relates to it.

 ALL measurements must be in SI Units (Metric).

**Step 4. Prepare Research Notebook (Final Report)**

 A Research Notebook (which may be also called a Final Report) should be prepared and available at the fair for judges to look through. Your Research Notebook should help you organize your data and your thoughts. Your research notebook should be a 3-ring notebook with a labeled cover (with your project title, your name, date, school, and grade).

Please see below for the exact order of your work which will be contained in your notebook.

**Step 5. Complete Abstract and Other Paperwork**

 The abstract is a summary of your project work. After finishing research and experimentation, you are required to write a 250 word maximum, one page summary. It should include the purpose of the experiment, the procedure used, a summary of the data, and conclusions. It may include possible research applications. The abstract should not include any acknowledgements, or work done in any other year or by a mentor. The official abstract form must be used and may be found on the sciserv.org website. The abstract must be signed.

 Make 6 copies of your abstract – 4 must be in the back of your Research Notebook with your completed paperwork, 1 is placed on your display board, and you should keep the original.

**Step 6. Make Display Board**

 Your display board should showcase your project work – it should both attract and inform. Use clear, attractive lettering and format. Resist the temptation to use lettering or colors that are too fancy or hard to see or read. You want to make any reading easy for the judges, so use clear, bold lettering. Label everything on your board. Everything on your display board should also be available in your Research Notebook.

 Boards should have a maximum size of 30 inches deep, 48 inches side to side, and 108 inches floor to top.

 Include the following on your board (and arrange them as shown on illustration – do NOT change things around – judges will be expecting to see the items in the standard order):

* Title
* Question (If your title is your question, then this isn’t needed)
* List of Variables (Independent, Dependent, Controlled)
* Graphs, Charts, or Diagrams (Be sure ALL measurements are in SI Units (Metric).
* Photographs (All photographs must have a label crediting whoever took the photo – even if it is you – and should NOT include anyone except yourself)
* Results
* Conclusions

**See the Rubric attached. Please set up your board exactly as it is seen on the handout.**

**Steps for setting up the Report**

**Note:** This final draft should be **typed** and set up in a three-ring binder. Please use the front side of the paper only. Type the Table of Contents last. Make sure to number each page.

Background Research

Summary of the research you did before you started that relates to your project

Table of Contents

I. Introduction Section

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 Hypothesis…………………....7

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II. Conclusion Section

 Analysis & Conclusion...11

 Bibliography…………………12

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Abstract

This is the summary of the project <250 words

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Title Page

(put your title and category in the middle of the page in ALL CAPITALS)

Your Name

Period

School

Grade

Date

Science Teacher

Procedures

Give step by step directions of how to do your experiment.

1,2,3,…

Like a recipe so someone could easily repeat your steps and validate your results.

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Acknowledgements

Thank those that helped you with your project.

Bibliography

Analysis and Conclusion

2-5 paragraphs paper

\*What did you learn?

\*What were possible errors that may have occurred or did occur?

\*Relate your conclusion back to your hypothesis. Was the hypothesis Right? Wrong?

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Data and Observations

Include everything that happened and what you observed as you did your project. Include charts, tables, graphs, and pictures. This section may be several pages long.

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Materials

List all the supplies needed for your experiment. Include the amounts and sizes in metric units.

Hypothesis/Variables

This should be one or two sentences that explain your “educated guess”

Remember:

**If**….(tell what you will do)

**then**..(what you think will happen) **because**..(how can you explain your guess?)

Purpose

Tell what you are trying to learn in your experiment and how this information can benefit humankind or expand scientific knowledge.

The purpose of this experiment is to find out….