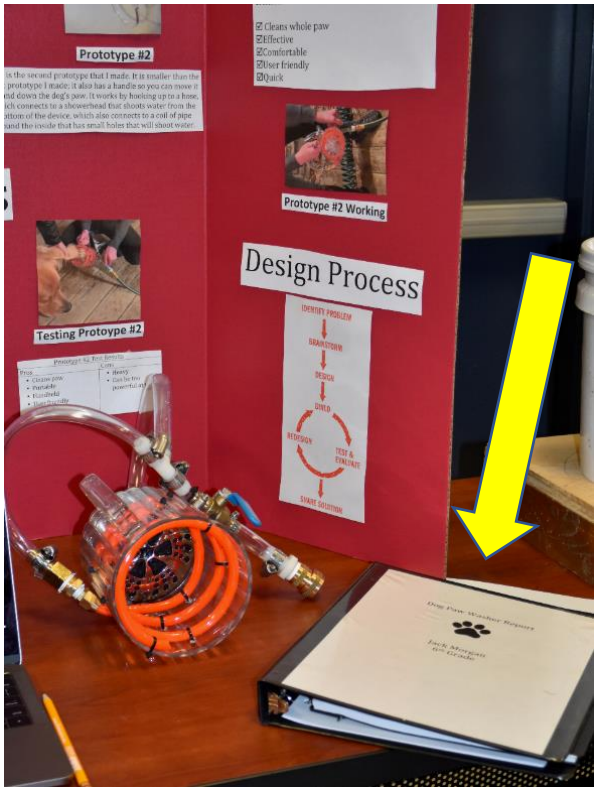
Summer Project Program

WEEK 8

Writing Your Project Report

Every LSEF project needs to come with a typed project report. This is not the same as your project notebook, which contains your raw data and may be hand-written. The raw data in your project notebook needs to be summarized and organized neatly into a typed report. The report needs to be both printed for display at the LESF and emailed to LESF one week prior to the event (you will receive an email reminder to do this). This is so that the judges have time to review the project information before the event, as they don't have much time at each station when they are judging at the event.

WHY DO A REPORT? Many projects submitted for the LSEF are missing the project report! Projects that do not include a report will still be judged and scored, but reports are 1/3 of the Communication score on the judging rubric, so a missing report will lower your score significantly. It is just as important to your score as your display and your presentation! Also, at the LESF, only projects with reports are eligible for top prizes (trophies).



SUBMISSION GUIDELINES FOR ALL REPORTS:

- Reports should be typewritten and organized in a notebook or folder.
- Recommended format is typed, doubled spaced, one-inch margins, and 12 pt. Times New Roman Font (required for projects that will move on to the next level District Science & Engineering Expo at UC).
- Put headings/titles on all graphs/charts/tables.
- Insert or paste clear pictures (if you paste, you will need to be able to scan your report to email it).
- Before you finalize your report, make sure to reread, revise, and rewrite.
- Recheck your calculations, spelling, and grammar.

HOW IS IT SCORED? The judging rubric scores your written communication on the following:

Science - "Well written Research Report (includes relevant background, research question and hypothesis showing how it is related to background, experimental design and procedures, data acquisition techniques, data analysis, conclusion and references). Both journal (notebook) and report present."

Engineering – "Well documented design engineering notebook (sketches, photos, iterations, testing data, results and references) with clear statement of technical problem and criteria for success AND written report (includes unambiguous title, organization, results, conclusions, reflections, correct grammar and spelling). Both documents are present."

Engineering Project Report Format:

Title: The first page in the report should include the title of the project as well as the name and grade of the student.

Acknowledgment: Here is where you thank everyone who helped to make your project successful (including parent, neighbor, coach, teacher etc.) Everyone that you interviewed, including teachers and other experts in the field should be mentioned here.

Statement of Problem: Discuss the problem that motivated the need for your engineering design. Outline the design constraints and cost implications.

Research/Background of the Problem: This is the part of the report that contains all the background information that you collected about your topic. Any books or articles read from the internet/journal, authorities on the topic that you talked to, or outside materials collected should be summarized in this section. **This section should be written in your own words and NOT copied from your resources.**

Proposed Solution: This is the section where you present all possible solutions you came up with and explain how you made the decision about the final design. Make sure to explain how you considered needs and constraints to make this decision.

Procedure: You will list and describe the steps you took to complete the project. Usually this is listed in a numbered sequence. Below are the suggested sub-titles for this section:

- **Building a Prototype:** Provide a visual image (e.g., pictures or drawings) of your prototype. You may consider including visual image from different perspectives.
- **Materials:** This is a list of all the materials and supplies used in the project. Quantities and amounts of each should also be indicated.
- **Cost Effectiveness:** Explain how much the design cost and whether it is a reasonable expense for a design to address the problem.
- **Testing and Evaluating the Prototype:** In this section, you will explain how you tested and evaluated the effectiveness of your prototype. It is also IMPORTANT to include your evaluation criteria as well as all graphs, charts, or other visual data (pictures) that helps to show your results.

Conclusion: This is where you explain why your project turned out the way it did. You can start with the reasons why you chose to address this particular problem. Next, you must discuss how effective or successful your design was in addressing the problem you had identified. Then, you should discuss what you would do to improve your design in detail and reason for these revisions. Since engineers work to improve quality of life by addressing the problems identified in communities, it is important that you discuss how your project improves your target population's lives. In other words, explain the implications of your design.

Reference Page: The bibliography should list all the printed materials the student used to carry out the project. Items should be listed in alphabetical order in a standard format. These websites are a great place to go to find the proper way of writing a bibliography. http://www.bibme.org/, http://www.easybib.com or http://www.knightcite.com. Also http://www.Icyte.com lets you "tag" information from Internet sources as you research.

Science Project Report Format:

Title: The first page in the report should include the title of the project as well as the name and grade of the student.

Acknowledgment: Here is where you thank everyone who helped to make your project successful (including parent, neighbor, coach, teacher etc.) Everyone that you interviewed, including teachers and other experts in the field should be mentioned here.

Statement of Purpose: State the purpose of the project **in the form of a question.**

Hypothesis: You must have a hypothesis before you complete the project. A hypothesis is a proposed explanation for the scientific phenomenon that you can test. While stating your hypothesis you focus on what you "predict" will occur as a result from completing your experiment.

Research: This is the part of the report that contains all the background information that you collected about your topic. Any books or articles read from the internet/journal, authorities on the topic that you talked to, or outside materials collected should be summarized in this section. **This section should be written in your own words and NOT copied from your resources.**

Materials: This is a list of all the materials and supplies used in the project. Quantities and amounts of each should also be indicated.

Procedure: You will list and describe the steps you took to complete the project. Usually this is listed in a numbered sequence. This part shows the stages of the project so that another person can carry out the experiment.

Observations and Results: In this section, you will tell what you learned from the project. It is also IMPORTANT to include all graphs, charts, or other visual data (pictures) that helps to show your results.

Conclusion: This is a brief statement explaining why your project turned out the way it did. You should explain why the events you observed occurred. Using the word "because" is a good way to turn an observation into a conclusion. The conclusion should tell whether the hypothesis was proven or not proven. Also give the reason(s) why you chose to learn more about the subject. You could also add what you know now that you didn't know before you completed your project.

Reference Page: The bibliography should list all the printed materials the student used to carry out the project. Items should be listed in alphabetical order in a standard format. These websites are a great place to go to find the proper way of writing a bibliography. http://www.bibme.org/, http://www.easybib.com or http://www.knightcite.com. Also http://www.Icyte.com lets you "tag" information from Internet sources as you research.

Lakota LEADS
Lakota's Enrichment and Academic Development of Students

Having trouble? You can ask your parent or coach for help, or join our next Zoom:

Next Optional Zoom – Monday, July 12 at Noon (check your email for a link and passcode)

Or e-mail us your question at LakotaScienceFair@gmail.com!

NEXT WEEK: Giving a Project Presentation