

THIS PAGE IS DUE ON MONDAY, DECEMBER 12TH.

Science Fair Information for 7th & 8th Graders

Dear Students and Parents/Guardians,

Leading Edge's Seventh Annual Science Fair is coming! It is a required project. Students will be working on their science fair projects individually or as a pair of students. This project is to be completed mostly at home. If working with a partner, please make sure that your student is able to meet with this person. I'll be helping students select topics, develop testable questions, understand the importance of following the scientific method, and practice presentations. Additional work time is available in my classroom during lunch times with one day's prior notice and after school by appointment. I will be organizing some after school Science Fair Workshops with dates and times TBA.

Students will be working this week in class on selecting who they want to work with (if anyone) and what they are hoping to do their project on (see bottom of this page). We will have a progress check on every individual component due date to monitor the project's progress. I'll let students know what to bring in to show before each date. They will be receiving a packet containing detailed information regarding requirements for all aspects of the project.

Final Research Papers are due on February 10^h and Display Boards are due on the day of the event, February 16th. Student projects will be judged during regular school hours and trophies will be awarded later that evening at 6:30pm. Families and friends are welcome to come that night to view the projects starting at 6:00pm. Projects must go home that evening. If you have additional questions or are available to help that day please let me know by note or email ndarwazeh@natomascharter.org.

Thank you for your continued support!

~ Science Fair Project ~

Student Name: _____

Partner (Optional): _____

Topic of project: _____

Supplies we'll need: Display Board, _____

*Please read through the information above/in the following pages and discuss with your student before signing below. It is important that you are aware and approve of the supplies they will need and partner they have selected. Thank you!!!

Student Signature _____

Parent Signature _____ Current Email _____

THE LEADING EDGE SCIENCE FAIR

Thursday, February 16th, 2011

The Leading Edge Program is pleased to announce our annual Science Fair. This is a great opportunity for students to become scientists and use the skills they have been practicing inside the classroom to solve a real world question. The Science Fair offers students the opportunity to pursue subjects that they find interesting and would like to learn more about, rather than be directed by a teacher.

How is this different from 6th grade Science Fair?

The biggest difference between 6th and 7th grade science fair projects is that the vast majority of the project will be completed at home this year. Thus the responsibility lies fully on the student to plan and research their project, complete the experiment, write-up a Lab Report, and prepare a display board and speech. The students will monitor their own progress and ensure they do not wait until the LAST MINUTE to complete the project. This project will be a large component of the student's grade for the second trimester.

Partners or Groups?

Students may work individually or in pairs within the same grade. No groups of three—no exceptions. Keep in mind that both students in a pair will receive the *same score* even if there was an unequal division of work. Judges will not be able to determine which member of a team did more work and deserves a higher grade. Parents, please also consider the amount of time a partnership will need to work together outside of school. Most times it is easier and less stressful for a student to work alone on Science Fair.

Requirements:

- Experiment must follow the scientific method
- Typed Lab Report
- Display Board
- Speech

DUE DATES:

- 12/12-Topic, Partner, Parent Signature and Research, Sources, Hypothesis, Materials, Procedures Due
- 1/25- Typed Rough Draft of ALL Sections Due
- 2/10- Typed Final Draft of ALL Sections and Speech Due
- 2/16- Leading Edge Science Fair! (Display Board due. Dress up for judges!)

Dates subject to change at teacher's discretion; please check website for updates.

Awards

Students will receive a certificate of recognition of their contribution to the Science Fair. Outstanding projects at each grade level will be eligible to receive first, second, and third place awards. Overall awards will be given to the best projects in the school, regardless of grade or subject area. Specific area awards will include but are not limited to "Environmental," "Sport Science," etc.

Schedule:

7th and 8th grade students should bring in completed poster boards to room H-3 by 8:15 AM on Thursday, February 16th. The schedule for the remainder of the day is TBA. After the fair, projects MUST be taken home.

Sacramento Regional Fair at Rosemont High School on March 23-24, 2012!!

Applications due February 13th.

Visit www.srsefair.org for more information.

7th & 8th Grade
Science Fair Lab Report Basic Outline Format

(see pages 4-6 for additional help)

***Sections a-d due Monday, December 12th.**

***Typed Rough Draft of all sections due Wednesday, January 28th.**

***Final Draft due Friday, February 10th.**

(Please submit only one report if working with a partner.)

1. Introduction:

- a. Question to be tested (Must be able to collect quantitative data!)
- b. Your hypothesis.
- c. What are you trying to find out? (The purpose of your experiment.)
- d. Why did you pick your topic? Why did this interest you?

2. Background Information: (Use worksheet provided) http://www.sciencebuddies.org/science-fair-projects/project_background_research_worksheet.pdf

- a. Researched facts about the main science topic. You should be a science “expert” on this topic! This is the place to show what you’ve learned before you run your own tests! (8-10 sentences including 3 sources). MUST BE IN YOUR OWN WORDS!

3. Materials List: Use bullets

4. Procedure: Numbered list of detailed steps followed to complete the experiments. You may also use diagrams to help show set-up of equipment, etc.

5. Results: Qualitative observations (descriptions of what you see in adjectives) and Quantitative (numbers/measurements of findings shown in *charts and graphs*)

6. Discussion: (1-2 paragraphs)

- a. Explain and analyze what the data and results mean; it should help the reader understand what your results mean.
- b. What were some factors that might have affected your data? Do not discuss your hypothesis here.

7. Conclusion: (1 paragraph)

- a. What did you learn?
- b. Was your hypothesis right or wrong? Why?
- c. Suggest changes in the procedure (or design) and/or possibilities for further study. What things would you change if you were going to do this again?
- d. What was the best part about doing your project?
- e. How does this relate to the real world?

8. Works Cited: Must have at least 3 sources for background information. **MLA**

How to Format Your Science Fair Lab Report (MLA FORMAT except Title page)

	Guidelines
Paper	Use white (8 1/2 x 11 “) Must be typed
Font	12 pt. Times New Roman. Must be typed.
Spacing	Double Spaced throughout paper.
Alignment of Text	Align Left with uneven right margin
Paragraph Indentation	1/2” or 5 spaces
Page #s	On every page, in upper right margin. (Last name(s), page number)

Title Page	All Centered (1/3 way down the page) Project Title (Near bottom of page) Your Name(s) Science 7 or Science 8 Ms. Darwazeh February 10, 2012
Section Headings	Center Headings on page.
Order of Sections	Title Page: Introduction Research Materials Procedure Results (Data Table, Graphs, Statistics) Discussion Conclusion Works Cited
Sources	Use MLA formatting Go to easybib.com or use Word's reference tab for help.
Binding	A simple staple in the top left-hand corner of your report is enough.

Additional Lab Report Guidelines and Tips:

The following pages will guide you as you prepare the Lab Report for your experiment. See rubric for more grading details.

Question, Research, Hypothesis, Materials & Procedure Due 12/12

QUESTION: What is the question you are trying to answer? This should be something that is challenging for you (you should not already know the answer!!).

- It should be a question that will allow you to collect numerical data/measurements in order to answer it.
- A scientific question usually starts with: How, What, When, Who, Which, Why, or Where. For example, if you are interested in robots, your question might be "How much current does a robot's arm use to lift a weight?"
- Can you design a fair test to answer your question? A "fair test" requires that you change only one factor (variable) and keep all other conditions the same. If you cannot design a fair test, then you should change your question.

RESEARCH: (You will be working on this in Language Arts.) What scientific concepts relate to your experiment? What does your project have to do with science?

- This Background Information Section of the Science Fair Research Paper is what makes the entire paper a research paper, and not a just lab report. It requires you to do research about the topic of your science fair experiment.
- **You should be an expert on the science of this topic by the time you present to the judges.**
The research section is where you begin this journey! The following is part of the background information for a project on how microwaving affects vitamin C in food:

Ascorbic acid, better known as vitamin C, is a white, crystalline substance that is very soluble in water (Gaman and Sherrington 125). It is necessary for the absorption of iron, the formation of connective tissue, and most importantly, the prevention of scurvy, a disease that has symptoms that involve hemorrhaging, weakness, arthritic joints, swollen gums, and decayed fresh. The daily allowance in the U.S. is 60 mg, although 10mg is enough to prevent scurvy (McGee 540). Pregnancy and lactation need an additional 20 to 40 mg (Zapsalis and Beck 248).

Notice the following points about this section.

- The typing is double spaced.
- The section contains parenthetical citations. Inside the parentheses is written the author and page number of the reference material that the information can be found in. These references are then listed in the bibliography.
- Dates and numbers must be cited.
- The section contains a summary of research from at least 3 sources.

****SOURCES:** Cite the sources you used to think of your experiment (if you borrowed it from a website) and to find scientific information. **KEEP TRACK OF EVERY SOURCE YOU USE.** When you've finished collecting your sources, use MLA format to complete your Works Cited. See Ms. Malloy or easybib.com for help with this.

HYPOTHESIS: This is your educated guess to the question you came up with and should include educated reasons based on your research.

- Most of the time a hypothesis is written like this: "If _____ [I do this] _____, then _____ [this] _____ will happen." (Fill in the blanks with the appropriate information from your own experiment.)
- Your hypothesis should be something that you can actually test, what's called a testable hypothesis. In other words, you need to be able to measure both "what you do" and "what will happen." For example: "If I open the faucet, then it will increase the flow of water." www.sciencebuddies.org

MATERIALS: List ALL materials used in the experiment (use numbers or bullets).

PROCEDURE: You need to be specific here; this is a step-by step, numbered list of what you did to complete your experiment. Another person should be able to follow your steps and be able to replicate your experiment just by reading this page. Don't forget to repeat your experiment many times and tell how many times it is to be repeated in your steps.

Be sure to visit sciencebuddies.org
for helpful tips and ideas!

ROUGH DRAFT OF ENTIRE REPORT DUE 1/25
(INCLUDING: RESULTS/DISCUSSION/CONCLUSION)

RESULTS: Use your own paper/notebook to record your experiment findings. You should have easy to read and properly LABELED graphs, charts, pictures, and tables. Remember, you need quantitative observations as well as qualitative observations.

- Quantitative means you need observations that are measured in numbers (height, speed, weight, etc.). Qualitative observations means descriptions without numbers (color, what you liked, etc.).
- **Quantitative observations are the only kind that can be used for charts and graphs and are more scientific than qualitative because qualitative depend on the person who's observing opinion.**

Example Chart:

How does light effect bean plant growth? (2 months)

	Yellow Light	Blue Light
Trial 1	3.5 inches	1 inch
Trial 2	5 inches	.5 inch
Trial 3	3 inches	2 inches



DISCUSSION: This section is where you explain and analyze what the data and results mean. It should help the reader understand what your results mean. What were some factors that might have affected your data? Do not discuss your hypothesis here. It should be 1-2 paragraphs.

CONCLUSION: Refer back to your hypothesis and state whether it was proved right or wrong according to your results. If you were wrong (it's ok to be wrong!) you need to explain why you think you were wrong. If you were right you need to explain why you were right. Lastly you need to generalize your results; how does this apply to the 'real world?' What further experiments should be done? What would you do next time? DO NOT say "this was a fun lab." This should be 1 paragraph.

WORKS CITED: Use MLA format. ☺

That's the end of your Lab Report!! Way to go!!

SPEECH:

Your speech is also due on February 13th. It should include the following:

1. Tell the judges your name(s).
2. State the title of the experiment
3. State the purpose of the experiment.
4. Tell the judges how this experiment interests you and why you chose it
5. Explain your procedure
6. Show your results, referring to your easy-to-read charts, graphs, and pictures.
7. Explain your conclusions. If your results are inconsistent try to explain why. Tell the judges what further experiments should be done or what modifications need to be done to your experiment.
8. Explain how your project relates to the research you've done and how it relates to everyday life or the real-world.
9. Ask the judges if they have any questions.
10. Thank the judges.
11. Smile!

**SEE MS. DARWAZEH FOR THE
HANDOUT ON DISPLAY BOARDS!**