

Don Callejon School

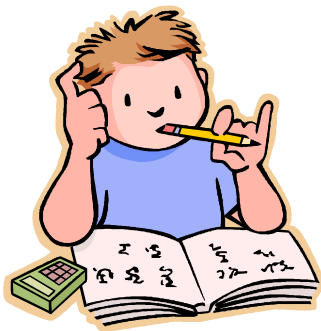


Don Callejon School Science Fair



March 12, 2010

6-8 P.M. in the MPR



Dear Families,

The Don Callejon Science Fair will be held March 12, 2010. Qualifying students will represent Callejon at the District Science Fair, March 22. The information in this packet should help your child plan and complete a science fair project. These projects give the students an opportunity to engage in scientific questioning, maintain accurate records, and apply the skills and processes of scientists to do a project.

Please be aware that students in grades 4, 5, and 6 are required to complete a science fair project. Students in grades K-8 can participate in the school science fair, with a complete project. However, only grades 4-8 are able to participate in the district science fair.

Winter break would be a good time for your child to start researching a topic for their project. Most projects take time to complete as multiple tests are required to meet the expectations and to get accurate results. We urge you to support and encourage your child to do his/her best work.

Please do not hesitate to contact your child's teacher if you have any questions. All of us at school are looking forward to this exciting and rewarding school event.

Please keep the following dates:

- November 23, 2009 Science Fair handbooks go out to students
- December 11, 2009 Science Fair Proposals are due to the teacher
- December 11-18, 2009 Teachers review and approve science fair proposals
- December 18, 2009 Teacher returns approved proposals to students
- December 7 at 7 p.m. Science Fair Prep Program at Santa Clara City Library
- February 2010 Teacher distributes science fair boards upon review of student journal completion, report, and abstract
- Tuesdays, Jan. 4-Mar. 2
(3-4 p.m.) Drop-in Science Fair Project Help for students, parents, and teachers
 - Boozer/Thorp grades 4,5, & 6 Rm B5
 - Woodward – 7th, Rm B12
 - Gordon – 8th, Rm B14
- Thursday, March 11, 2010 Science Fair Projects are submitted in the MPR
Your teacher may collect your project sooner
- Friday, March 12, 2010 **Don Callejon's Second Annual Science Fair!**
Science Fair check-in and set up in MPR and library. Judging all morning with parent viewing and ribbons in the evening. *Parents are not permitted in the MPR during the day*
- May 9 – May 15, 2010 International Science Fair, San Jose
Fifty Callejon Science Fair students will be attending as spectators (more information to follow)

Choosing a Topic

- Choose a topic that is safe for you to do. Please DO NOT experiment with vertebrate animals or bacteria.
- Choose a topic that interests you. After you have begun and you no longer find the topic interesting, it is OK to stop and choose another topic. However, make sure you have plenty of time to begin a new one. DO NOT stop and start various projects! You want to give yourself enough time to complete your project!
- Look at the world around you. Use the exploring question “I wonder...” to start asking questions and investigating possible topics.
- Choose a topic from your experience.
- You can find a topic on the internet or in a science experiment book. *Please visit the DCS library site for Science project ideas.*

*****VERY IMPORTANT*****

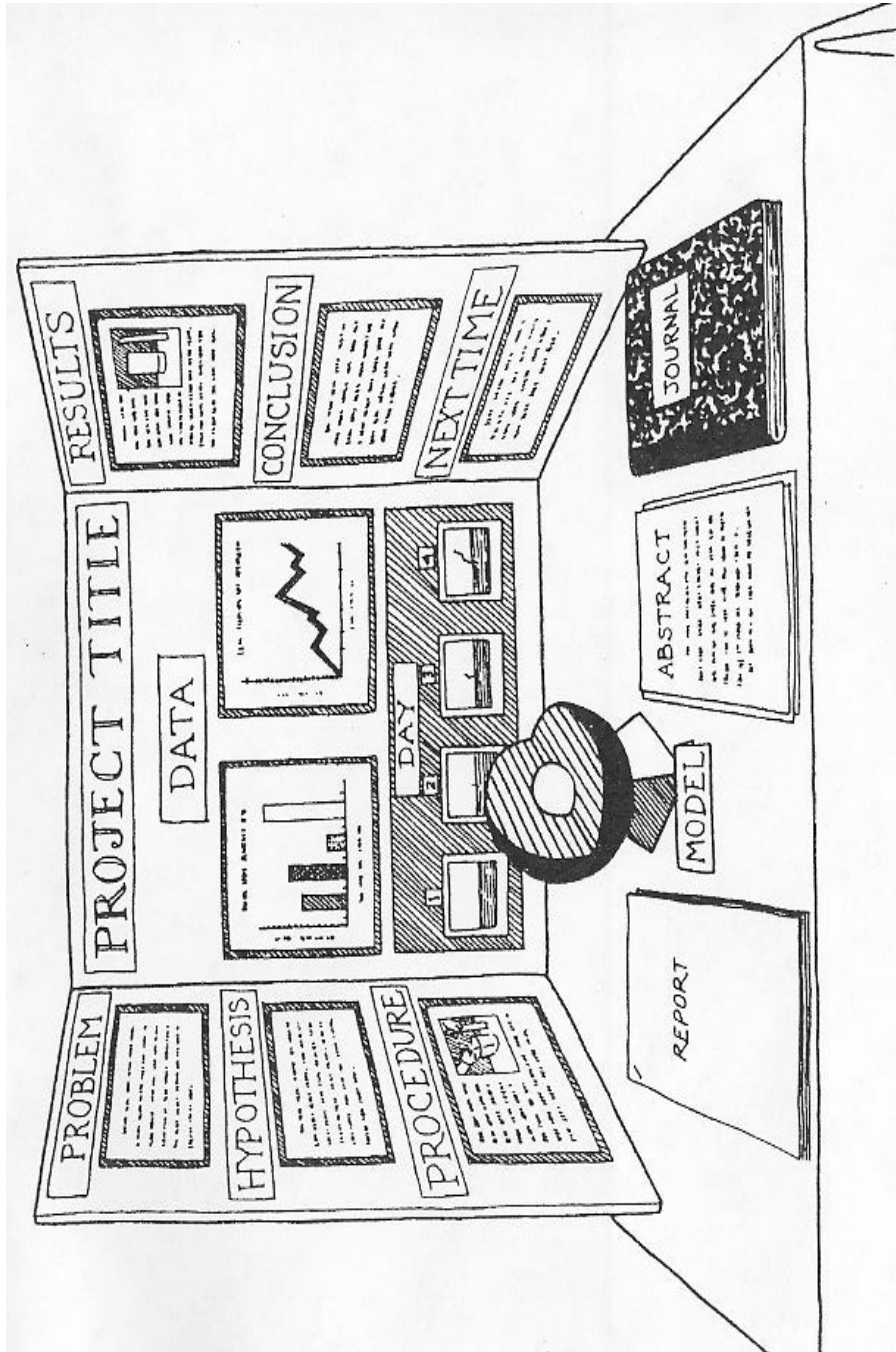
- Keep a journal with your topic and project research. This will be displayed with your completed project.

Name _____

Scientific Method

- 1. Problem:** Ask a question or state a purpose
- 2. Hypothesis:** What do you *think* will happen, based on research?
- 3. Procedure / Materials List:** Plan a procedure to test the hypothesis, considering variables and the number of times tests need to be repeated.
- 4. Results:** Make observations and collect data. Express results using graphs and charts.
- 5. Conclusion:** Make a statement considering all you learned during the process. Was your hypothesis correct? Did anything unexpected happen? Back up the statement with research you did!

Typical Elements for Display Board:



Do's and Don'ts for Project Display

- Do use computer-generated graphs
- Do display photos representing the procedure and the results.
- Do use contrasting colors.
- Do limit the number of colors used.
- Do display models when applicable. If possible, make the models match the color scheme of the backboard.
- Do attach charts neatly. If there are many, place them on top of each other.
- Do balance the arrangement of materials on the backboard so it is distributed evenly.
- Do use double-sided tape or cement glue to attach the papers to the board.
- Do make sure to include a section for Acknowledgements
- Don't leave the table in front of the display board empty. Display your models (if any), lab report, and journal here.
- Don't hang electrical equipment on the display board.
- Don't make the title or heading hard to read.
- Don't hand-print the letters on the display board.
- Don't attach folders that fall open on the display board.
- Don't make mistakes in spelling words or writing formulas.

Unacceptable for Display

- Live animals
- Microbial cultures or fungi, living or dead (e.g., mold, bacteria)
- Animal or human parts
- Liquids, including water
- Chemicals and/or their empty containers (including caustics, acids and household cleaners)
- Open or concealed flames
- Batteries with open-top cells
- Combustible materials
- Aerosol cans of household solvents
- Controlled substances, poisons or drugs
- Sharp items such as syringes, knives and needles
- Gases

Science Fair Evaluations and Presentations

Evaluation Expectations:

- Judges will be looking for original ideas
- Be able to state your problem clearly
- Be able to define your variables and controls used
- Be knowledgeable about any equipment used
- Be able to explain how you conducted experiments
- Have Science Journal complete with all collected data and research (Repeat your experiment several times to verify results)***
- Spend an appropriate amount of time (NOT ONE DAY) to complete project
- Have measurable results
- Use tables, graphs, & illustrations to interpret data
- Use research to interpret data collected***
- Collect enough data to make conclusion

Presentation Expectations:

- Present an attractive & interesting display that shows creative ability and originality
- Have a complete and comprehensive report
- Answer questions accurately
- Refer to display during oral presentation
- Justify conclusions on basis of experimental data
- Summarize what you learned

Guidelines for Written Portion

A. Journal – *this is your diary of chronological events. Your entries should be dated.*

- Research on topic (cite your sources!)
- Question
- Hypothesis
- Materials List
- Procedure
- Observations (daily / weekly) qualitative and quantitative observations recorded throughout entire project
- Conclusions

B. Report (on your findings)

1. Title Page
2. Table of Contents
3. Introduction
4. Experiments / Data
 - a) *Purpose*
 - b) *Materials*
 - c) *Procedure*
 - d) *Tables / Graphs / Charts / Diagrams*
5. Results (facts) and Conclusion (your analysis)
6. Bibliography
7. Acknowledgements

C. Abstract – a one-paragraph summary of your project

Model – optional (restricted to the size of a shoe box)

Judging Criteria

1. ORIGINALITY / CREATIVITY (30 points)

- The problem is original or a unique or unusual approach to an old problem.
- Experimental design shows creativity.
- Resources – materials and equipment – are used ingeniously.
- Application and interpretation of data demonstrate student's creativity and original thinking.
- Student shows understanding of unanswered questions.
- Project goes beyond textbooks found at the student's grade level.

<u>Poor</u>	<u>Weak</u>	<u>Average</u>	<u>Strong</u>	<u>Exemplary</u>	Score _____
0-11	12-17	18-22	23-26	27-30	

2. SCIENTIFIC THOUGHT AND UNDERSTANDING (35 points)

- The hypothesis is well stated and based on reading, study and/or observation.
- Project demonstrates depth of study.
- Student demonstrates depth of knowledge regarding the scientific and/or engineering principles involved.
- The experimental design is effective in testing the hypothesis.
- Results and conclusions are clearly and honestly stated, and are logical, relevant, and related to the hypothesis.
- Implications of the experimental results are discussed, and one or more further hypotheses and experiments are suggested.
- Student can extrapolate what was learned from the project to the subject in general or to related subjects.

<u>Poor</u>	<u>Weak</u>	<u>Average</u>	<u>Strong</u>	<u>Exemplary</u>	Score _____
0-13	14-20	21-25	26-31	32-35	

3. ORGANIZATION AND COMPLETENESS (15 points)

- The project has a well-defined goal / objective.
- Well-organized and executed experimental procedures.
- The scientific literature (considering grade level) has been searched.
- Experimental data recorded in a careful and orderly manner.
- Experiments have been repeated as needed.
- Implications of the project fully addressed.
- Well-organized display board.

<u>Poor</u>	<u>Weak</u>	<u>Average</u>	<u>Strong</u>	<u>Exemplary</u>	Score _____
0-5	6-8	9-11	12-13	14-15	

4. EFFORT AND MOTIVATION (10 points)

- Amount of time spent on project.
- Amount of time conducting background reading and study.
- Extent to which depth of background reading and study was reflected in the project.
- The student learned a considerable amount about the subject on the project.
- The display board was informative and attractive.

<u>Poor</u>	<u>Weak</u>	<u>Average</u>	<u>Strong</u>	<u>Exemplary</u>	Score _____
0-3	4-5	6-7	8-9	10	

5. CLARITY (10 points)

- Original project notebook is available for inspection.
- Project notebook is well organized and accurate.
- The purpose, hypothesis, procedures, results, and conclusions are clearly stated.
- The project title accurately portrays the actual project.
- The abstract is clear and well written.
- Oral presentations are clear and reflect knowledge of the problem and the basic science underlying it.
- Audio-visual materials, including the display board, are clear and relevant to the project.

<u>Poor</u>	<u>Weak</u>	<u>Average</u>	<u>Strong</u>	<u>Exemplary</u>	Score _____
0-3	4-5	6-7	8-9	10	

Science Fair Central

Starting Your Project - Six-Week Schedule

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Taking on a science fair project might seem like a huge task, but it doesn't have to be an overwhelming experience. Use the timetable below to think through the steps in the process and follow a clear schedule.

Date of the science fair _____		
Date to begin working on project _____ (Six weeks before science fair opening date)		
Scheduled Weekly Events	Scheduled Completion Date	Actual Completion Date
Week 1 <ul style="list-style-type: none">* Choose a topic or problem to investigate.* Start a journal to keep all your notes and research along the way.* Begin primary research: Write for information from experts, such as scientists, businesses, and government agencies. Set up interviews when necessary.* Begin secondary research: Search printed sources (books, journals, magazines, and newspapers) and electronic sources (Internet and software).		
Week 2 <ul style="list-style-type: none">* Change your topic or problem if necessary.* Decide how to set up your investigation or experiment, including the procedure and necessary materials.* From your initial research, write your hypothesis.* Continue your research using the best resources you found.* Interview experts for more information.		

Starting Your Project - Six-Week Schedule

(Page 2)



Scheduled Weekly Events	Scheduled Completion Date	Actual Completion Date
Week 3 <ul style="list-style-type: none">* Complete initial research. Set up outline for written report.* Start your experiment or demonstration collection. Record observations in your journal.* Begin collecting or buying materials for your display.		
Week 4 <ul style="list-style-type: none">* Work on first draft of written report.* Continue to record observations from your experiment in your journal.* Write down or sketch preliminary designs for your display.		
Week 5 <ul style="list-style-type: none">* Write second draft of your report.* Start assembling display unit.* Begin designing signs, labels, charts, graphs, or other visual aids for display.* Write text for background of display and plan its layout.* Continue to record observations from experiment.* Take any photographs you need.		
Week 6 <ul style="list-style-type: none">* Complete your experiment or collection. Analyze observations and write up your results.* Write, type, and proofread final version of written report.* Have photographs developed and enlarged.* Type explanations or background information and mount them on your display.* Finish constructing your display, including graphs, charts, and visual aids.		

