

SCIENCE

FAIR

2010-2011

Participation Packet

- Timeline
- Requirements
- Guidance and Resource Materials

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2010-2011 BSS Science Fair

Introduction

We are pleased you will be involved in the 2010-2011 BSS Science Fair. This packet includes:

- (1) The forms and formats needed to meet project deadlines,
 - (2) Instructions and guidance to support your work, and
 - (3) Resource material. Please review all information carefully and keep this packet in a safe place (e.g., your Science binder) where you will find it as you work on your Science Fair Project between now and February 2011.
- All 7th graders are required to participate in the 2010-2011 BSS Science Fair.
 - 8th graders are required to do a research paper, which has different requirements. 8th graders also have the option of participating in the Science Fair.
 - 6th graders are required to complete models, which are displayed at the BSS Science Fair but not judged.

Once the BSS Science Fair judging has been completed, the results will be announced on February 18, 2011. Ten projects will be identified for involvement in the Diocesan Science Fair, which is April 9, 2011.

All Science Fair requirements will receive homework grades in Science class. In addition, two items will constitute special project grades: (1) the final version of the project proposal (including the refined hypothesis, procedures, etc.) in 2nd quarter; and (2) the completed Science Fair project in 3rd quarter. Failure to complete the various forms and requirements will adversely affect grades in both quarters.

The Science Fair represents an extraordinary opportunity and fun experiential learning activity. We look forward to your participation!

BLESSED SACRAMENT SCIENCE FAIR TIMELINE 2010 – 2011

Friday, October 1	<ul style="list-style-type: none"> • Review science fair packet in class. • Take home to show parents. • Brainstorm possible topics—topics that interest you and are appropriate for research. • Do not choose experiments that require more than 4-6 weeks for data collection.
October 7-8	<ul style="list-style-type: none"> • Review scientific method with simple experiments and demonstrations. • Discuss possible scientific topics. Brainstorm ideas.
Thursday, October 7	<ul style="list-style-type: none"> • Science Fair packet confirmation sheet due (separate sheet)
Wednesday, October 13	<ul style="list-style-type: none"> • Three Project Ideas due (use form on p. 7) • Discussions about ideas 10/13-10/18
Wednesday, October 20	<ul style="list-style-type: none"> • First Draft Project Proposal Sheet Due (use form on p. 8) • Students should purchase a project log book (see p. 17)
Week of October 25	<ul style="list-style-type: none"> • Advisory Sessions with outside advisors to discuss project ideas, proposals, and research. The dates and times will be announced. Sessions will be held after school. • Research on the topic should begin this week.
Monday, November 8	<ul style="list-style-type: none"> • Second Draft of Project Proposal Sheet Due (use form on p. 8 again, and attach your first draft as an attachment). This must be typed. After teacher approval, continue research and information gathering, and initiate any investigations or tests that will help refine your hypothesis and/or procedures. • Draft Research paper due (see p. 12). Your research report should be 2-3 pages and summarize what you learned through researching your topic further. Include a paragraph on how your research affected the design for your experiment.
Monday, November 22	<ul style="list-style-type: none"> • Final Version of Project Proposal Sheet Due (see pp. 9-10, form is p. 11).
November 29- December 3	<ul style="list-style-type: none"> • Teacher will instruct each student either to “proceed” or “wait: revisions needed.” Students who must make revisions will complete revisions by December 6.
Monday, December 6	<ul style="list-style-type: none"> • Revised plans due from students given the “wait: revisions needed” instructions.
December 1-December 10	<ul style="list-style-type: none"> • Students will run tests of their procedures or will begin the experiment and data collection (if given the green light to proceed) • Students will purchase the binder and tabs they will need (if not yet done).
Monday, December 13	<ul style="list-style-type: none"> • Final version of Research Paper due.

December 10-January 10	<ul style="list-style-type: none"> • Approximate term for conducting experiments. Experiment length will vary – some students will have projects that take longer, and some may not need this much time.
Week of January 10	<ul style="list-style-type: none"> • Advisory Sessions with outside advisors to discuss what happened in the experiment: project data, analysis, conclusions, and communicating project results. The dates and times will be announced. Sessions will be held after school.
Thursday, January 13	<ul style="list-style-type: none"> • Purpose, Hypothesis, Materials, Procedure and Variables Page due (see p. 13). It must be typed and placed into the binder. • Binder should be assembled with the page above and all the tabs correctly labeled and placed (p. 17). • First draft of the Data Collection, Analysis, and Conclusion Sheet Due (p. 14). Submit a draft of the data you have collected. Submit this on loose leaf paper. Later versions will be added to your binder.
Thursday, January 20	<ul style="list-style-type: none"> • First draft of the Abstract and Future Study Sheet Due (pp. 15-16). Work on backboards, Log Books, and Binders. • First draft of Bibliography Due in format used on school (library class) (see p. 23)
Friday, January 28	<ul style="list-style-type: none"> • Final drafts of all components are due and all sections are inserted into binders.
January 28-February 2	<ul style="list-style-type: none"> • Work on Backboards. See packet for examples (pp. 17, 20-21).
Friday, February 4	<ul style="list-style-type: none"> • Backboard and Final version of Binder due. Bring completed Log Book, Binder, and Backboard to school (p. 17).
February 4-9	<ul style="list-style-type: none"> • Present experiments in class. This provides important “practice” for interviews you will have with judges.
Thursday, February 10 (our snow date is Tuesday, February 15)	<ul style="list-style-type: none"> • Judging/Interviewing of Students (schedule to be provided). You need to be prepared for your interview and your project must be at school by February 4. (See p. 22 for tips.)
Friday, February 18	<ul style="list-style-type: none"> • Science Fair Awards Ceremony at 3:00 pm. Science exhibits will be set up in Quinn Hall (8:30 am-5:30 pm) for class visits during the school day and for open viewing from 3:15-5:30 pm.
Saturday, April 9	<ul style="list-style-type: none"> • Diocesan Science Fair at Paul VI High School. Ten projects by BSS students are selected for inclusion and those ten students attend the Diocesan Science Fair.

During the process, BSS will engage several outside advisors to provide constructive feedback on student proposals and experiments. Some of this will be done through written comments, and we anticipate offering two formal advisory sessions (after school). Dates of these sessions will be announced. The first session will be during the week of October 25, and the second session will be during the week of January 10. All students will be assigned to an advisor.

Parental Involvement

Science Fair participation is an important experiential learning opportunity for students. They learn about managing a long-term project, researching topics, conducting experiments using scientific methods, collecting and analyzing data, drawing conclusions, and presenting work in writing, visually, and verbally.

It is extremely important that students undertake this work themselves and complete it to a standard commensurate with their individual abilities and guidance received through class work and involvement with advisors.

Parents are invited and encouraged to provide guidance as well since they too have important and relevant experience to share. We ask that parents review and respect the boundaries inherent in the lists of appropriate and inappropriate involvement below to ensure that students have the optimum learning opportunity.

Appropriate Parental Involvement:

- Helping students brainstorm possible project ideas
- Helping in the selection of feasible project ideas
- Assisting in gathering equipment and resources necessary for the successful completion of the project, including helping students visit libraries and access appropriate online resources to conduct background research
- Assisting in contacting a professional advisor or expert
- Helping to construct stands and boards for the project display
- Monitoring and supervising the progress of the project to ensure that safe and appropriate procedures are followed and to ensure students are working to meet project deadlines
- Proofread student-produced research paper and final components for binders and boards

Inappropriate Parental Involvement:

- Constructing, designing, and/or assembling apparatus used in an experiment except where safety is a consideration
- Gathering data or conducting experiment for their child
- Composing the research paper, final paper, or other project components for their child

Three (3) Project Ideas for Science Fair

DIRECTIONS: Write down three (3) ideas you would like to research for the Science Fair. Your paper should be in the same format as the sample listed below.

TIPS: The **control** is the standard to which the outcome is being compared. The **variable** is something in an experiment that can change. An experiment should only have one **independent variable** (something you change in an experiment to test an outcome). The **dependent variable** is what changes as a result of your independent variable. The dependent variable is only known after an experiment is completed.

My Three (3) Project Ideas

Name _____ Date _____

IDEA #1

Topic: _____

Purpose/Question: _____

Summarize the experiment you have in mind. What is the independent variable? What is the control?

IDEA #2

Topic: _____

Purpose/Question: _____

Summarize the experiment you have in mind. What is the independent variable? What is the control?

IDEA #3

Topic: _____

Purpose/Question: _____

Summarize the experiment you have in mind. What is the independent variable? What is the control?

First Draft: Project Proposal Sheet

DIRECTIONS: Write your initial Science Fair proposal. Your paper should be in the same format as the sample included below. You may copy this form or prepare your proposal in a computer file with all of this information included. Attach sheets as needed.

Name _____

Date _____

Topic _____

Problem/Purpose [List this as a question] _____

Hypothesis [Predict the outcome/result.] _____

Materials [Be specific on everything you need!] _____

Procedure [List your process here in numbered steps. Make sure you are specific and detailed. List as many steps as needed.]

1. _____

2. _____

3. _____

4. _____

Etc.

Data Expected [Explain what type of information you hope to get from your experiment.] _____

Data Table [Insert a data table to show how you are going to record data. Include the independent variable and the number of trials/containers, and set up space to record the data for the dependent variable.]

Resources [You must have a minimum of seven (7) resources, use MLA format (as provided in packet) to cite the sources.]

**Examples may include interviews, encyclopedias, websites, science textbooks, scientific journal articles, etc. At this point list your sources. You will compile your research in your final project proposal.*

How to Complete the Science Fair Project Proposal Final Draft

Please refer to the next page for help in checking your design

Problem: State the problem you are attempting to solve. Be clear and concise.

Category: Consult the list at the end of this packet for help deciding which is most appropriate (see p. 18)

Hypothesis: State your educated guess. You may use the “If..., then” format. For example: If more grams of sodium are added, then the boiling point will increase. The independent variable (what you change deliberately, on purpose) goes after the “if” and the dependent variable (what you expect to happen) goes after the word “then.”

Experimental Design Diagram: The purpose of the experimental design diagram is to help you see at a glance if you are incorporating all aspects of the scientific method correctly. This design diagram can also help you see if you have all of the procedures you need, if you have missed important steps, or if you have steps you do not need.

Independent Variable: The variable in an experiment that you change deliberately (on purpose) to see how it will affect your results.

Data Expected/Data Table: A table that shows how you are going to record your data.

Example:

Independent Variable = grams of sodium chloride

Levels of independent variable*	0.0g	5.0g	10.0g	15.0g
Number of Trials**	5	5	5	5

*For *Levels of Independent Variable* draw in as many lines as you need, depending on how many levels you are testing.

***Number of Trials* means the number of times that you will test each level of the independent variable.

Dependent Variable: The variable that changes when you change the independent variable. For example, when I change the amount of sodium added, the boiling point changes because of the change I made.

Control: These are test subjects for which you do not change the independent variable so that you have something with which to compare your results. It is the standard to which you compare your results.

Constants: These are the factors that stay the same for the entire experiment and in your trials. For example, in the experiment testing how the level of sodium affects the boiling point of water, examples of constants are: type and amount of water used in each test, type of salt, container to heat the water mixtures, heat source, the thermometer used.

Materials: List all of the materials (equipment, substances, etc.) needed to complete your experiment. Please use SI measurements (metric units) for all of your measurements (see chart on p. 19 for more details)

Procedure: Please write your steps (neatly) in paragraph form and in step form (e.g., Step 1, Step 2, etc.)

Checking Your Design

Before completing your project proposal final draft, it is best to go through all of the questions below to ensure you have addressed these elements satisfactorily. It is also helpful to draw a process flow diagram to see if the procedure in the experiment design is complete.

- ✓ Does the title clearly identify both the independent variable and the dependent variable?
- ✓ Does the hypothesis clearly state how you think changing the independent variable will affect the dependent variable, and what will be the overall effect of the change?
- ✓ Is there just one independent variable? Is it clearly defined?
- ✓ Are the levels of independent variable clearly stated? Are you using enough levels of the independent variable? Are you using too many?
- ✓ Is there a control? Is it clearly stated?
- ✓ Are there repeated trials? Are you doing enough trials?
- ✓ Is the dependent variable clearly identified and is how you will measure it clearly stated?
- ✓ Are all of your measurements in metric units (SI units of measurement)?

Final Draft: Science Fair Project Proposal Sheet

DIRECTIONS: Make changes to your first draft proposal and include the other steps and information needed to complete this form. Your paper should be in the same format as the sample included below. You may prepare your proposal in a computer file with all of this information included. Attach sheets as needed.

Name _____ Date _____

Topic _____

Problem/Purpose [List this as a question] _____

Category [Identify the scientific category, i.e., chemistry, physics, biology—ask the teacher if you're not sure of your topic's category] _____

Hypothesis [Predict the outcome/result.] _____

Materials [Be specific on everything you need!] _____

Procedure [List your process here in numbered steps. Make sure you are specific and detailed. List as many steps as needed.]

1. _____
2. _____
3. _____
4. _____

Etc.

Experimental Design/Data Expected [Explain what type of information you hope to get from your experiment. Include the independent variable, the levels of independent variables, and number of trials.] _____

Data Table [Insert a data table to show how you are going to record data. Include the independent variable and the number of trials/containers, and set up space to record the data for the dependent variable.] Example: Independent Variable = grams of sodium chloride

Levels of independent variable*	0.0g	5.0g	10.0g	15.0g
Number of Trials**	5	5	5	5

*For Levels of Independent Variable," draw in as many lines as you need, depending on how many levels you are testing.
 ***Number of Trials" means the number of times that you will test each level of the independent variable.

Control [Do not change this at all – you compare your results with the control.]

Constants [Factors that stay the same for all trials during the entire experiment.]

Resources [You must have a minimum of seven (7) resources, use MLA format (as provided in packet) to cite the sources.] *Examples may include interviews, encyclopedias, websites, science textbooks, scientific journal articles, etc. In this final proposal you need to list your sources and also include two paragraphs summarizing the research you found pertinent to your project. The research should include vocabulary and terms related to your topic (e.g., photosynthesis, global warming, pH (acids and bases), periodic table, etc.). These two summary paragraphs should link to the longer research report to be included in your binder.

Parent Signature: [Your parent MUST sign the bottom of your final proposal.] _____

First Draft: Research Paper

DIRECTIONS: After the idea you have selected has been approved, you undertake research to learn more about your subject, the scientific concepts involved, and knowledge that already exists about the problem you have identified. After reading about your subject, synthesize your research into a 2-3 page paper that includes a minimum of 4-6 paragraphs. Your paper should include all major vocabulary words and scientific ideas pertaining to your project.

Visit a library while you are conducting research, and consult a librarian for sources pertinent to your topic.

Topic	Name
	Date
<p>Paragraph #1: Explain your interest in this project. Discuss how you decided upon your topic. Include what your hypothesis is (or may be) and explain why.</p>	
<p>Paragraph #2: Discuss the research you found that confirms or supports why you chose your hypothesis. This paragraph may include vocabulary you address and scientific laws or theories that relate to you topic. You may also include direct quotations from text/research that you found applicable, and be sure to attribute these quotations appropriately. The information included here may require more than one paragraph, and you may wish to devote a paragraph to each major resource or applicable sub-topic.</p>	
<p>Paragraph #3: Continue with your research summary from the previous paragraph.</p>	
<p>Paragraph #4: Reference any types of data that are crucial to your project topic and/or any special considerations that you found in the research that may affect your project. Include any additional explanation these considerations may need, using attributed quotes as applicable.</p>	
<p>Paragraph #5: Conclude with a paragraph that summarizes and restates the problem you will investigate and your hypothesis.</p>	

How to Complete the *Title, Purpose, Hypothesis, Materials, Procedure,* and *Variables* Sections in Your Binder

Please type all of these sections in Times New Roman 12-point font, double-spaced, with one-inch margins. Each section should include a cover sheet that lists the student's name, class, date, and project title. Be sure to use proper grammar and punctuation.

Title: The title should be informative and clever. If you can think of a title that is both descriptive and catches someone's interest, that is best. Include this title on the outside of your binder and on your cover sheet.

Purpose: What do you hope to accomplish by doing this experiment? State your purpose briefly in one or two sentences.

Hypothesis: State your educated guess about the outcome of your experiment. Make a prediction. Be sure you state clearly how you think changing the independent variable will affect the dependent variable and effect the change you predict. You may use the "If..., then" format. For example: If more grams of sodium are added, then the boiling point will increase. The independent variable (what you change deliberately, on purpose) goes after the "if" and the dependent variable (what you expect to happen) goes after the word "then."

Materials: Include the type and amount (in metrics, see p. 19 of each thing that you will use. Be as specific as you can be.

Procedure: Use your proposal drafts as a starting place and ensure that by now you are writing up your procedure in paragraph form. Be precise, so that someone could follow these steps themselves in order to recreate your experiment.

Variables: Identify your independent variable and your dependent variable. Include only one of each. Also list, or describe, your control and all other "constants" that do not change throughout your experiment. For example, if you are measuring how far a ball can be thrown, you have to make sure that you do your test on days when there is no wind, and always test your subjects as they throw the same ball. Otherwise your results may be changed by factors other than the ones you are trying to test. Please refer to earlier sections for more information.

How to Complete the *Data Collection, Analysis, and Conclusion* Sections in Your Binder

Please type all of these sections in Times New Roman 12-point font, double-spaced, with one-inch margins. Each section should include a cover sheet that lists the student's name, class, date, and project title. Be sure to use proper grammar and punctuation.

Data Collection: All quantitative data should appear in a chart or table. Graph data when possible, and be sure to label all of your charts, tables and graphs clearly and legibly. Make sure all of your measurements are in metric units. Don't interpret your data here; save that for the analysis section.

Analysis: This is the section where you interpret the data that you gathered. The analysis should answer the questions:

1. What are your observations actually telling you?
2. What does your chart, table, or graph tell you?

Conclusion: Here you either accept or reject your original hypothesis. Remember that it is okay if your findings do not match your hypothesis. Sometimes much more is learned by experiments that do not do what we expect them to do. The most important thing is to learn what you can from your data.

How to Complete the *Abstract* and *Future Study* Sections in Your Binder

Please type the *Abstract* section in Times New Roman 12-point font, single-spaced, with one-inch margins, using the format on the next page.

Please type the *Future Study* section in Times New Roman 12-point font, double-spaced with one-inch margins. There should be a cover sheet including the student's name, class, date, and project title. Be sure to use proper grammar, punctuation, and spelling. Each topic should have its own section in the paper.

Abstract: Abstracts should be limited to one page, 12-point font, times New Roman, 250 words. The abstract should be typed single-spaced on plain white paper and follow the format on the next page.

Future Study: This section includes a very brief summary of the highlights of the paper and addresses the following questions. Each of these questions should have its own complete paragraph.

- 1) Does your science experiment have any application on a larger scale? Is it relevant to any real life problem or situation?
- 2) If you were to run your experiment again, would you make any modifications or improvements? Would you test different variables? Why?
- 3) As a result of your experiment, what new questions or ideas do you have for expanding your research?

Abstract Format

Your abstract should be limited to ONE PAGE, 12-point Times New Roman font, single-spaced, no more than 250 words. It should be typed on plain white paper. The abstract should be in the past tense with no personal pronouns. The abstract should contain the following heading information in the upper left hand corner:

Name
Grade, School
City
Sponsoring Teacher
Category
Title

The body of the Abstract should follow and it should include three (3) paragraphs: PURPOSE, PROCEDURE, and CONCLUSION.

How to Complete the *Backboards, Log Books, and Binders* Components of your Project

Backboards, logbooks, and binders communicate your project to others. It is important that they reflect your experiment accurately and in a visually appealing way.

Backboard: A display board will be provided to each student. The purpose of the board is to provide a vehicle for the student's work to be displayed quickly and concisely. It should be neatly laid out and attractive. Example formats are included in this packet, and other examples will be shown to students.

Log Book: This book should contain all written documentation about your project, and should be started at the very start of the experiment design process. Any tests of procedures should also be included with notes and observations. Accurate, detailed, and complete notes make a winning project because they show consistency, dedication, and completeness. All items should be recorded in ink, or you may include computer printouts and other data by taping them into your log book.

Data entries should begin with notes on choosing your topic, researching background information, and purchasing supplies. Include your hypothesis and the problem that you are investigating. Also be sure to include the name, profession, position, and nature of help given any anyone that you consulted throughout the process. As soon as you make an observation or gather new data, record these in your log book along with the date so that you can trace the development of your experiment through your log book entries.

Binder: The Science Fair binder will be part of your display and it provides an easy way for judges to see all of your hard work. Each section will be separated by a labeled divider, and you will place a table of contents in the front of the binder so that the information can be accessed easily. The required sections are as follows:

1. Abstract
2. Problem
3. Hypothesis and Research
4. Materials Used
5. Procedure
6. Variables
7. Charts and Graphs
8. Analysis and Conclusion
9. Future Study
10. Bibliography

DIOCESAN SCIENCE FAIR

CATEGORY DESCRIPTIONS

1. **Behavioral and Social Science** – Human behavior, social and community relationships.
2. **Biochemistry** – Chemistry of life processes-molecular biology, molecular genetics, photosynthesis, food chemistry, hormones, enzymes, etc.
3. **Botany** – Study of plant life-agriculture, horticulture, forestry, plant taxonomy, plant psychology, plant genetics, hydroponics, algae, etc. Please monitor projects to respect all life (plants and animals).
4. **Chemistry** – Study of nature and composition of matter and laws governing it.
5. **Computer Science** – Study and development of computer software and hardware and associated logical devices.
6. **Earth and Space Sciences** – Geology, mineralogy, physiography, oceanography, meteorology, climatology, astronomy, speleology, seismology, geography, etc.
7. **Engineering** – Technology: projects that directly apply scientific principles to manufacturing and practical uses.
8. **Environmental Sciences** – Study of pollution (air, water, and land) sources and their control; ecology.
9. **Mathematics** – Development of formal logic systems or various numerical and algebraic computations, and the applications of these principles-calculus, geometry, abstract algebra, number theory, statistics, complex analysis, probability.
10. **Medicine and Health** – Study of diseases and health of humans.
11. **Microbiology** – Biology of microorganisms.
12. **Physics** – Theories, principles, and laws governing energy and the effect of energy on matter.
13. **Zoology** – Study of animals, including diseases, behavior, and health.

Please monitor projects to respect all life (plants and animals).

MEASUREMENT RESOURCE TABLE

<u>PROPERTY</u>	<u>MEASUREMENT UNIT</u>	<u>ABBREVIATION</u>	<u>INSTRUMENT USED</u>
Acidity/Alkalinity	PH		pH paper, pH meter
Angle	Degrees	(°)	protractor, sextant, transit
Area	Meter ² Centimeter ² Millimeter ²	(m ²) (cm ²) (mm ²)	Meter stick and formula for regular objects, planimeter for irregular objects or indirect measurement for irregular objects
Density	Kilogram/meter ³ Grams/centimeter ³	(kg/m ³) (g/cm ³)	balance and meter stick, pycnometer, hydrometer
Electrical Current	Ampere	(amp)	Ammeter
Electrical Potential	Volt	(V)	Voltmeter
Electrical Resistance	Ohm	(Ω)	ohmmeter, Wheatstone bridge
Force	Newton	(N)	spring scale
Growth (special) Optical density Size of colony	Nanometer Number per square millimeter	(nm) (#/mm ²)	Photoelectric colorimeter marked grid or overlay
Heat	Joule	(J)	Calorimeter
Humidity	Percent	(%)	Hygrometer
Length	Meter Centimeter Millimeter Micrometer Angstrom	(m) (cm) (mm) (um) (A)	meter stick, tape measure micrometer, vernier caliper
Light intensity	Candle Lumen	(can) (lum)	photometer, light meter, photoelectric cell
Mass	Kilogram Gram Milligram Microgram	(kg) (g) (mg) (ug)	spring balance, lever-arm balance, electronic balance
Pressure	Pascal	(N/m ²)	barometer, manometer, mechanical pressure gauge
Sound intensity	Decibel	(db)	audiometer, sound level meter
Temperature	Degrees centigrade or Celsius	(°C)	thermometer, thermocouple, thermistor, pyrometer
Time	Seconds	(s)	stopwatch
Velocity	Meter/second	(m/s)	speedometer, anemometer, stopwatch and meter stick
Volume	Cubic meter Cubic centimeter	(m ³) (cm ³) (mm ³)	graduated cylinder, pipetter, burette, volumeter, manometer
Weight	Newton	(N)	spring scale

What Makes for a Good Science Fair Project Display Board?

Does your display board include:

- Title
- Abstract
- Question
- Variables and hypothesis
- Background research
- Materials list
- Experimental procedure
- Data analysis and discussion including data chart(s) & graph(s)
- Conclusions (including ideas for future research)
- Acknowledgements
- Bibliography

Is the text font large enough to be read easily (at least 16 points)?

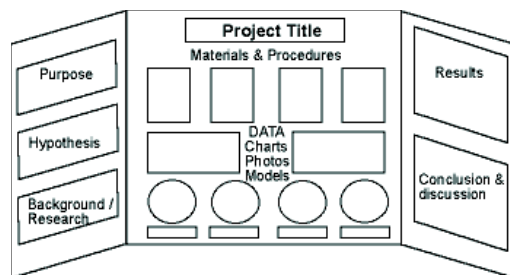
Does the title catch people's attention, and is the title font large enough to be read from across the room?

Did you use pictures and diagrams to effectively convey information about your science fair project?

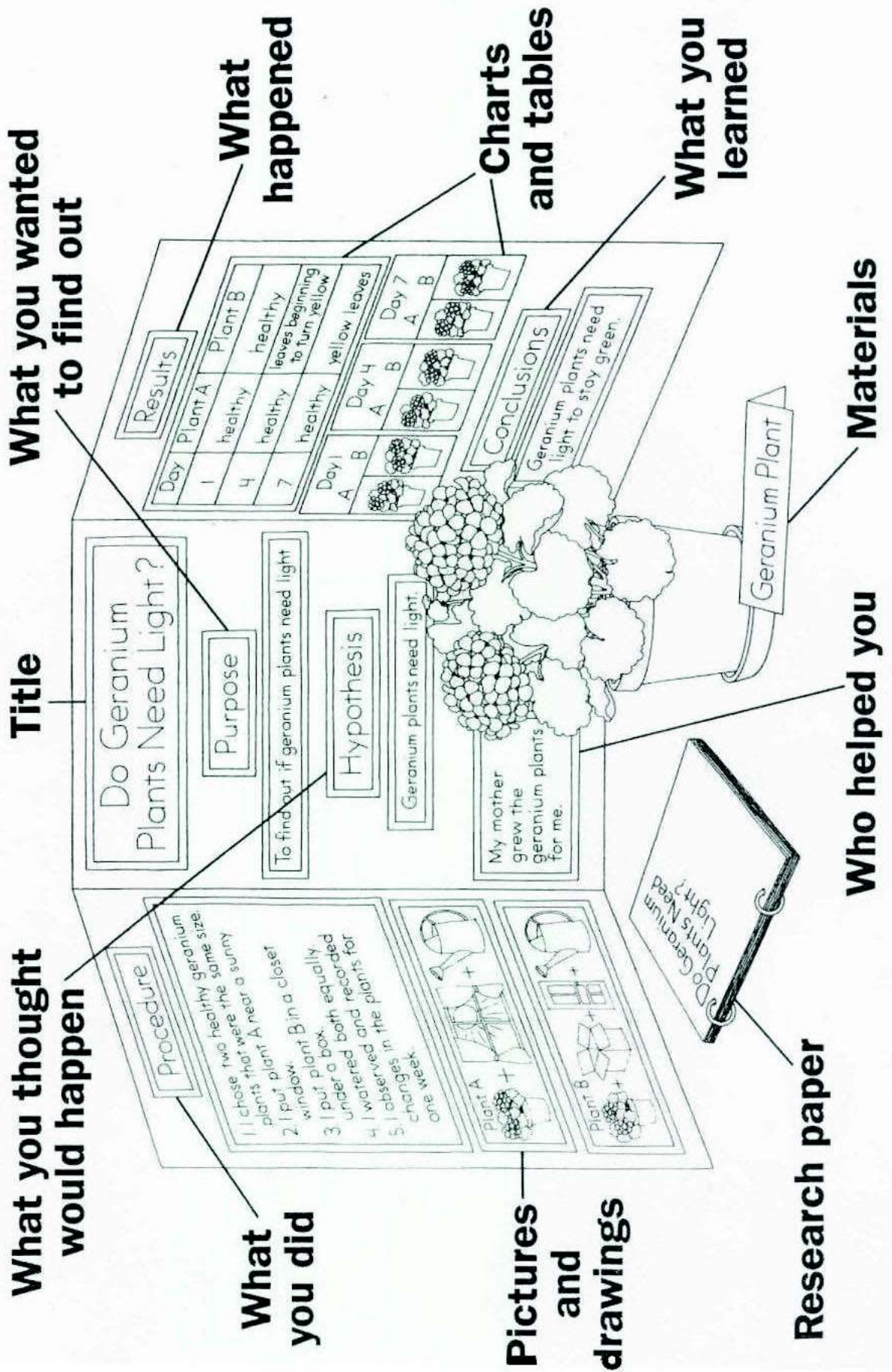
Have you constructed your display board as neatly as possible?

Did you proofread your display board?

Did you follow all of the rules pertaining to display boards for your particular science fair?



Displaying a Science Fair Project



Tips for Presenting to Judges

You want to impress your judges with your project, your knowledge, and your enthusiasm. All people are affected in one way or another by the way we look, the way we talk, and the way we act. Adults are usually impressed with good manners and nice appearance. Stand up straight on both feet; do not sway from foot to foot. Look straight into the eyes of your judges. Pay attention to each of them. Stand to the side of your exhibit. Get the judges involved in your project by letting them hold your binder, lab book, or apparatus. Point out charts and graphs. Do not chew gum or candy and speak loudly enough to be heard by all of your judges. Smile and be polite.

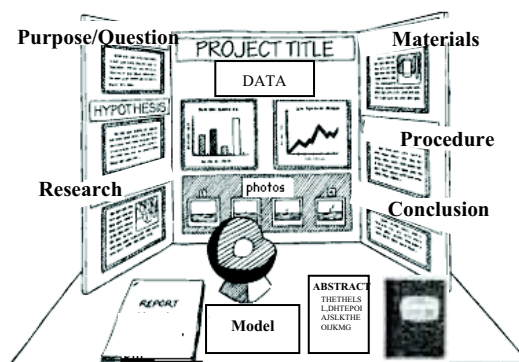
Here is a sample approach to constructing your presentation:

1. Introduce yourself. "Hello. My name is . . ."
2. Give the title of your project. "The title of my project is . . ."
3. Explain the purpose of your project. "The purpose of my project is . . ."
4. Tell the judges how you got interested in your topic.
5. Explain your procedure. "The procedure that I followed was . . ."
6. Show your results. If you have charts, graphs, or a notebook, show them to the judges and explain them. If results are shown on your backboard, point them out.
7. List your conclusions. Explain what you have proven. If you think that you had some problems or error in your experiments, do not be afraid to admit these.
8. Tell the judges what you might do in the future to continue your research and experimentation. What would you have done differently if you were to do the project again?
9. Of what importance is your project to the world? Explain any applications of your study.
10. "Do you have any questions?" If you do not know the answer to a judges' question, then say, "I'm sorry, but I don't know the answer, but I think it is . . ."
11. Thank the judges.

Mounting your display

1. Use rubber cement or a glue stick to mount print and illustrations on poster board. Make sure it holds firmly.
2. Carefully measure to make sure all borders are even.
3. Cut board with matte knife or paper cutter.
4. Remember, your backdrop must be transportable.

Suggestions For Your Display



USE THE LIBRARY

USE THE LIBRARY

USE THE LIBRARY

We encourage you to take your child to the Library to research his/her topic for Science Fair.

If you do this, please write down the date and ask a librarian at the desk to sign this sheet.

All signed sheets that are turned in by December 1 will receive 10 bonus points.

A point of contact at Beatley Library in Alexandria is:

Virginia Rawlings
Children's Section
Charles E. Beatley, Jr.
Central Library
5005 Duke Street
Alexandria, VA 22304-2903
703-519-5900

Ms. Rawlings is a weekday employee, so she's not available on weekends. However, any parent who wishes to work with her on a weekday that isn't a library holiday will get some great direction in where to find what in the library. Ms. Rawlings can also assist with interlibrary loans, so if the Alexandria Libraries don't have a book, she may be able to find it from a Fairfax, Montgomery County or other nearby library and borrow it on the behalf of a local student.

Also, the library has its collection available on line at <http://www.alexandria.lib.va.us>. This will allow an internet search of the collection by subject (and title and author, of course) prior to arriving at the library, for those who have time limitations and want to optimize their search.

Parent Signature: _____

Student Name: _____

Student Signature: _____

Date(s) of Library Visits: _____

Library Visited: _____

October 1, 2010

Dear Parents/Guardians and Students,

It is time to start preparing for the annual Blessed Sacrament Science Fair! All 7th grade students are required to participate in the school science fair. Throughout the next few months, each student will develop a question, conduct an experiment, research the topic, and complete a science fair project that will be entered in the Blessed Sacrament Science Fair. This experience will help students to master the scientific method, develop critical thinking, practice organizational skills, and utilize time management.

All projects must be experimental in nature and incorporate the steps of the scientific method. This packet contains essential information to help make this process a positive learning experience. The amount of work may seem overwhelming at first, but if students complete each step along the way, they will easily navigate the requirements and produce a project of which they can be proud.

The first and most important step of the process is choosing a topic for research. Since students will work on one question over the next few months, they should be sure to choose a field that interests them. During the next couple of weeks, students will brainstorm various topics of possible interest, and will think about how they could develop those ideas as experiments. Later in October, one topic will be confirmed and students will develop a question and conduct background research on the topic. From November through mid-January, the projects are refined and pursued, data gathered, results analyzed, and conclusions drawn. By early-February, students will be at the stage in the process where they are ready to communicate their results. The outside judging process is scheduled for February 10, and our BSS Science Fair is scheduled for February 18, 2011.

The science fair proves to be a meaningful scientific and academic experience. Please read the remainder of this packet carefully, as it contains more information and the guidelines regarding each due date. The packet will also be posted as an electronic link on the Blessed Sacrament School webpage.

Sincerely,

Laurie Regelbrugge
Science Teacher

Science Fair Packet Confirmation Sheet (Due Date: October 6)

Dear Parents and Students,

Please discuss the requirements and deadlines in this packet. To verify your reception of this information, please sign, date, and return this sheet to Mrs. Regelbrugge by October 6, 2010.

Parent Signature: _____ Date: _____

Student Name: _____ Student Signature: _____