Hugh Sutherland School Science Fair - Entry Form

Fair Date: Monday, February 5, 2024
Form Due: Friday, January 19, 2024

Participant(s):

Name: _____	Name: _____
Address: _____	Address: _____
Phone: _____	Phone: _____
Grade: _____	Grade: _____
Teacher: _____	Teacher: _____

Project Title: _____

Do you need an electrical outlet for your display? YES NO

(Please bring your own extension cord if you answered 'yes' above)

Your project will be sitting on a table. It must comply with the following safety regulations:

- → No live animals or animal parts on display
- → Any dangerous substances must be simulated (ex. Use water for clear-colored acids)
- → No flames or exposed electrical parts are displayed
- → No lasers of any kind

Note: To assess the hazards of your display, ask yourself the following question - "Could any viewer, small child included, eat, drink, touch, or spill something that may cause harm?" Please make sure the answer is 'no.'

All entry forms must be completed and returned to the office (Mrs. Sadek) or library (Ms. Jen) by Friday, January 19, 2024. The deadline must be adhered to in order for us to ensure we have enough judges and tables. If you require a trifold board, they can be purchased at Staples, Walmart, Michaels, and most other stores that carry stationery.

I hereby give permission for my child to exhibit the project described above in the Hugh Sutherland School Science Fair on Monday, February 5, 2024. I am aware that disruptive or inappropriate behavior could result in disqualification. I am also aware that parents cannot be present during judging.

_____ _____

Parent Signature Parent Signature

Hugh Sutherland School - Science Fair Information

Entry Form

The Hugh Sutherland School Science Fair is taking place on Monday, February 5, 2024. This will be a traditional Science Fair, with students completing tri-fold board projects. **If you plan to participate, you must fill out and return an entry form to the office (Mrs. Sadek) or the library (Ms. Jen) by Friday, January 19, 2024.**

You are allowed to do a project on your own or with ONE other student. There can be no more than TWO people to a project. Each participant must fill out their own information on the entry form and each participant's parent has to sign it.

We will hold an awards assembly (likely) on February 6. For students who qualify, the MSTS Science Fair in Olds will be on Saturday, March 2, 2024.

Rules and Regulations Self-Check Sheet

This sheet does NOT need to be returned to the school, but **must be placed beside your project** at the fair. This sheet allows you to self-check that you have met all of the rules and regulations.

Informed Consent

If your project involves using other people as subjects or outside participants, you must get them or their parents to sign informed consent forms. This includes when you use classmates, other students, other adults, etc. even if they are just answering questions for you.

Before having your subjects or their parents sign the form, you must fill out all of the required information, including what is involved in your tests and what the subjects will be doing. Let Mrs. Sadek, Ms. Jen, or your teacher know if you need photocopies of the form.

Specific requirements: must include date + participant's name + parent signature, and all of the information about the project needs to be filled in by you first so parents know what they are giving permission for.

The signed consent forms will not be on display at the fair. However, you must have the signed forms beside your project in a folder or duotang for judges to look through.

Rules and Regulations Self-Check Name: _____

This is your self-check for the rules and regulations. Please check each point carefully to ensure a successful project. Check off the points that refer to your project as you complete them.
Please make sure that the following guidelines are strictly adhered to, or your project may be disqualified. Cross off points that don't apply to you.

1. No more than 2 students worked on this project. ☐
2. The exhibit conforms with the rules on maximum size (2.5m x 1.2m x 0.8m). ☐
3. The exhibit is self-standing and stable. ☐
4. There is NOTHING on display except for a detailed logbook (required for all projects), project summary (required), photos, videos, consent forms (if needed), and a computer (if needed). Please do not bring simulations or materials used in your experiment.
   ☐
5. No hazardous materials have been used. ☐

   OR

   Hazardous materials were involved but the project was supervised by:

   Name: _____ Qualifications: _____
6. Any electrical power cord is a three-wire grounded connection and/or CSA approved.
   ☐
7. Have vertebrate animals been used? ☐

❖ If yes, the experiments were supervised by:

Name: _____ Qualifications: _____

8. I have consent forms for any project that involved the surveying of or participation of other humans. ☐

Please check www.youthscience.ca and click on "Policies" or "Ethics and Safety for more information. The ethics website is http://ethics.youthscience.ca/

Science Fair Informed Consent

Science Fair Participants: _____

_____

Project TItle: _____

Briefly explain what is involved in your project and the tests you need to complete. What will the test subjects be doing?

_____

_____

_____

_____

If your test involves food or drink, list the items involved:

_____

We would like your consent to use your child to help us gather our data and determine your results.

Information gathered is for judging purposes only and will not be shared with anyone else nor will not be shared with anyone else nor displayed publicly.

Thank you for your help.

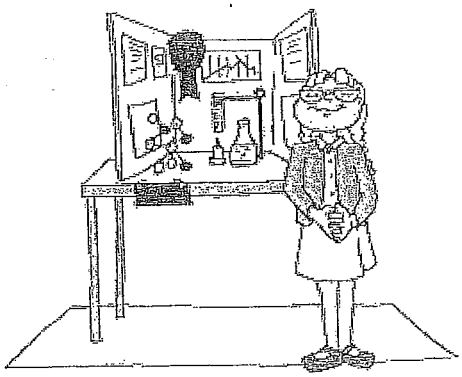
Child's name: _____

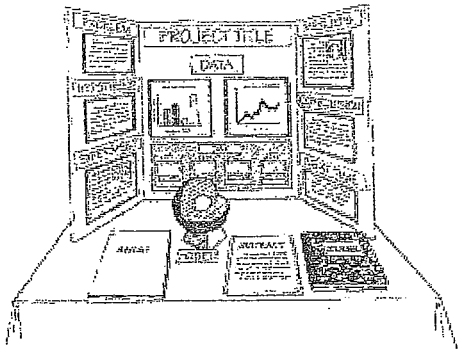
Parent's name: _____

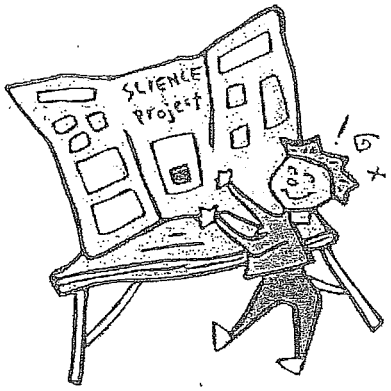
Date: _____

- **These forms must be in a duotang in case the judges request to see the contents.**

Science Fair Project Information Booklet







Grade 5 to 12

Criteria for Science Fair Projects Grade 5 to 12

- No more than two students may enter one project together.
- The display must be no larger than 3.5 m tall * 1.2 m wide and 0.8 m deep
- A LOG BOOK, diary, or journal records all activity concerning the projects. This includes all rough work, outlines, procedures, notes, diagrams, clippings, photocopied material, etc. (this Book must be with the display.)
- For Grade five to twelve, a project summary or a short report that sums up the entire project must also accompany the project. A maximum of two pages / 400 words for grade 5 and 6 and three pages / 600 words for grades 7 to 12. The summary should consist of the purpose of the projects, the procedures, the results obtained, the conclusion reached and a bibliography.
- All writing must be original, or quoted and cited. NO PLAGIARISM.
- There must be no biological material on display.
- Dangerous moving parts must be shielded.
- Dangerous substances must be simulated (eg. Water for acid) and must be labeled as such.
- No flames or exposed electrical parts can be displayed.
- Lasers of any sort may not be used.
- If electricity is used, all cords must be CSA approved.

Project Hints

Here are some helpful hints that you might not consider when doing a science fair project:

Choose a topic that interests YOU

The topic that you choose for your science fair project should be one that is of interest to you. If you have ever tried to do something that did not interest you, chances are that you did not do your best. When participating in the Science Fair, to have a chance at winning you have to give it your all, or in other words- do your best. It is easier to do your best when you are actually interested in the topic you are studying.

Do your own work

When you are at the fair, and you're asked to speak about your project, how can you talk about it if you don't actually do it yourself? Getting help on a few specific aspects of your project is okay, there's nothing wrong with that, but it has to be YOU who does the project, not a parent.

Give yourself plenty of time

For your project to be the best you can make it, you must allow yourself plenty of time to get it done. A good project can't be done the night before the fair or even a few days before. A good project requires weeks of planning and experimentation to be successful.

Your project doesn't have to be complex

The purpose of the Science Fair is to help you (the student) to learn about a specific topic. Oftentimes, students choose very difficult and tedious projects because they think that it will help them to do better at the fair. In theory, it is a good idea, but more often than not, the student becomes overwhelmed with the project and ends up not learning very much about it. It is better to pick a simpler project and be able to speak confidently on Science Fair day then to choose a difficult one and be unsure.

Your Presentations to the Judges

When you decide to be in the science fair, you must consider your presentation as important as any other part of your project. Practice will make the difference in how well you present yourself to the judges.

Here is the step-by-step 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 this topic.
5. Explain your procedure. "The procedure that I followed was_____."
6. Describe your results. If you have charts, graphs, or a notebook.
7. List your conclusions. Explain what you have proven. If you think that you may have some problems or errors in your experiments, don't be afraid to admit these.
8. Tell the judges what you might do in the future to continue your experimentation. What would you have done differently if you were able to do the project again?
9. Of what importance is your project to the world? Explain your applications of your study.
10. Ask the judges, "DO YOU HAVE AN QUESTIONS?" If you do not know the answer to the judge's question, then say, "I'm sorry I do not know the answer, but I think it is _____."
11. It is strongly encouraged that you try to avoid saying "I don't know." Ask the judge to rephrase the question and try your best to give some type of answer. This indicates to the judge that you are confident, informed and know your project.
12. Always thank of the judges.

Questions judges may ask

1. Originality
    a. Where did you get the idea for this project?
2. Plan and Produce (*Hypothesis and Method*)
    a. What did you think would happen before you carried out your experiment? Why?
    b. How did you go about proving your idea? What was your plan of action for this study?
3. Variables
    a. In an experiment, you usually control every aspect but ONE. This aspect may cause a change that can be observed. What is one (or more) thing(s) did you change?
    b. How did you control the other things?
4. Observations and Mathematical Treatment (*Observations*)
    a. Show me your logbook. Where is your rough work?
    b. Did you have any troubles getting the results? How did you deal with your difficulties?
5. Conclusion

    Can you briefly tell me what you found out about your study?
6. Further Direction Indicated (*Application*)
    a. Can this study be put to use?

Writing your Project Summary Grade 5 to 12

A good summary report should include all of the following:

Title page: Create a title page including a project title, your name, address, school, and grade.

Purpose: The purpose includes an exclamation of your idea, how you came up with it? and also what you hoped to achieve when you started the project. The purpose of this question, drives your project.

Hypothesis: This is where you predict what be the outcome or result of your experiment.

Procedure: Describe in detail the method you used to collect your data and observations. Your report should be detailed enough for anyone to be able to repeat your experiment by just reading the paper. It would be a good idea to include detailed paragraphs or drawings of your designated experiment.

Results: In this section, your results are analyzed. This section should flow logically so that the reader can easily follow your train of thought. Compare your data with theoretical values and expected results. Discuss how your results varied from similar events. Describe what you would do differently if you were to do this project again. Use tables, graphs or charts to backup your exclamation.

Conclusions: Summarize your results. Do not introduce anything that wasn't already mentioned in the previous parts of your paper. State what you proved or disproved.

Acknowledgements: In this section, you should give credit to all who assisted you. This may include individuals, businesses, and educational or research institutions. Identify any financial support or material donations received.

References: This list should include any documentation that is not your own, such as books or articles that you used. Use proper bibliography format.

Display Boards

The purpose of your exhibit is to display your project to a judge. Content or the information on the board is the most important thing. Many boards look good but don't have very much information. It should attract the attention of a viewer and make them want to come and read about your project.

It is good to use color in your display but you shouldn't make it too colorful because it will make your display lose its professionalism. Stick to one or two colors that contrast, such as clack and white or red and green. Whatever you do, don't use colors that clash. Use colors sparingly, you don't want the judges focusing on the colors instead of the content.

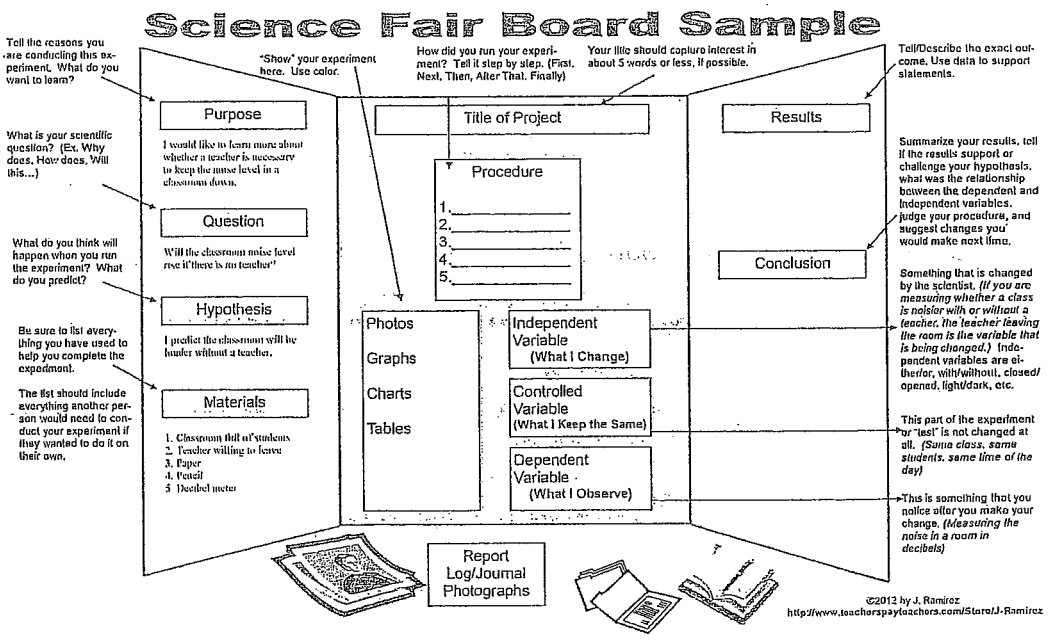
The title is very important on a display board. It should be eye-catching and easy to read. Be sure that the letters are large enough to read across a room. Use dark colors for the title.

typical setup Most display board area is a 3 panel configuration and the typical setup of this type of board is:

Left Panel:
Purpose
Problem

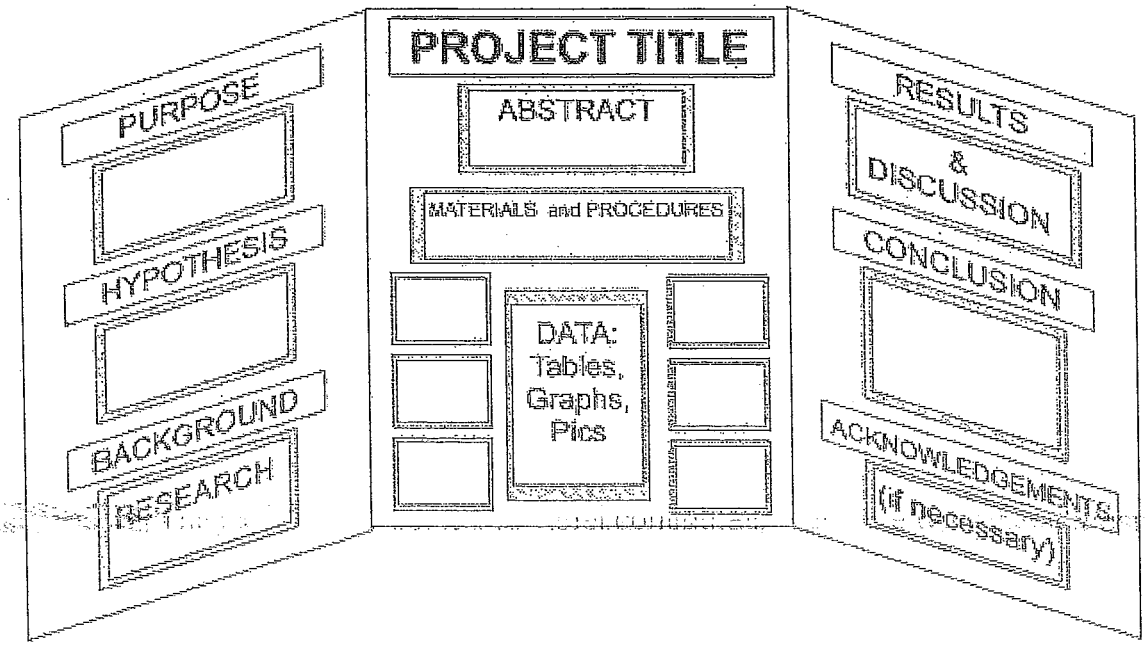
Center Panel:
Title
Procedure

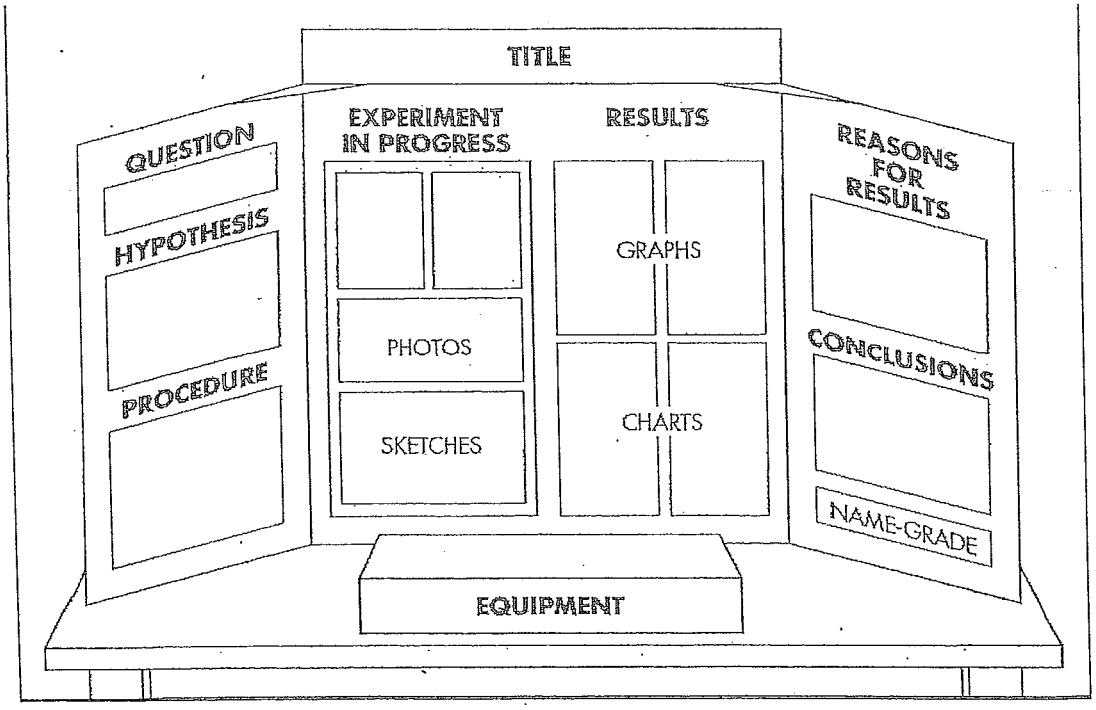
Right Panel:
Illustration/
Photos
Graphs/ Charts
Results
Conclusion



Before you begin, make sure you plan out your board including making sketches. This can save you money if you mess up a board. Remember that your display can be no larger than 3.5 m tall * 1.2 m wide and 0.8m deep.

Display Board Ideas





Arrange information so that it is easy to read and flows in a logical order. Top to bottom and left to right.

Tips for Parents - Helping your child with THEIR Project:

- Give encouragement, support, and guidance.
- Make sure your child feels it is their project. Make sure the work is primarily the work of the child.
- Realize the main goal of Science Fair projects is to help your child use and strengthen the skills they have learned and develop high-level skills. The main goal should not be the ribbon or prize.
- Provide transportation to libraries, nature centers, or universities that can help your child find project information.
- Locate internet access, either at home or at a school or library.
- Help your child design a project that is safe and properly supervised.
- Help at your local school Science Fair. Contact your child's teacher to volunteer.
- Help your child plan a mutually agreed upon timeline to prevent a last minute project. Some projects take 6 to 10 months. It is suggested to allow at least 6 weeks to conduct an experiment and prepare the presentation.
- Do not worry or get upset if your child doesn't win a prize at the Science Fair. The skills the child has gained are worth all of the effort.
- Help your child begin to plan for next year.
- Feel a sense of pride and accomplishment when the Science Fair is over. You and your child have earned it!

Project Steps:

1. Selecting a Topic

The first step in preparing a good Science Fair project is to select a topic for your project. This is the first 'hurdle' a student faces when starting a Science Fair project and can often be quite a dilemma. Choosing a good project is very important because it can make the difference between a good and an excellent project. First of all, you should pick a topic you are interested in. Secondly, it doesn't have to be complicated. Students often select complicated projects and then end up not fully understanding the concepts or even give up on the project. Your project may be an experimental project, a research/ study project or an innovation/ invention project. Keep in mind that an experimental project is probably the easiest to do well as it lends itself preferably to scientific procedure.

2. Start a Log Book

This is a journal where you record any and all things that you do concerning the work on your project. This includes all ideas, rough work, sketches, notes and records of your project-related activities. Treat this book as a diary and be dedicated to keeping it all detailed and up-to-date as you go. Good log books show signs of being used often. You must bring your logbook to the fair. Include the dates of each recording.

3. Research your Topic

After selecting your topic, you learn everything about it. Books on your topic can most likely be found in your local library or bookstore. The best source of information is on the internet. You can use the mini search engines available to find information. Look for credible websites.

4. Make a Plan

Once you consider yourself an 'expert' about your topic, make a plan as to how you will conduct your experiment. Your plan should include the following:

- ✓ The purpose of your experiment
- ✓ Your Hypothesis or what you think the outcome of the project will be
- ✓ A detailed procedure outlining how you will conduct the experimentation.
- ✓ The variable(s) or the things that you are going to change during the experiment and the things you will control

5. Conduct the Experiments

The next step is to follow the plan that you have written. While conducting the experiment make your detailed notes on everything that you observe. You may even want to take pictures or make sketches of your observations. These notes are vital to your experiment because they are needed when you write your report and make your display. If your results didn't turn out as hoped, carry on anyway - it's still a valid experiment.

6. Analyze Your Results

Once you are finished with the experiment, organize your notes. You may want to recopy your notes so that they are more organized and can be easily understood by others. Then, analyze them. Ask yourself, what happened, did the results agree with your hypothesis, and so on. Make graphs and charts to represent the data to help you analyze it.

7. Write a Report - Grade 5 - Grade 12

Write a detailed report about your project. Tell exactly what you did, how you did it, and what you discovered. Be sure you write all about your plan and your experiment. Include your data, and perhaps some charts and graphs to help readers interpret the information. Be sure you also include some background information you have learned.

8. Make your Display

The display is crucial to your success at the Science Fair because it tells about your project. The display must be neat and well organized. It should include background information, the problem, your hypothesis, your procedure, your results, your conclusion, your report, and graphs and charts. You should also include photos or drawings of your experiments. The display must be no wider than no larger than 3.5 m tall * 1.2 m wide and 0.8m deep.

9. Rehearse your Presentation

When you make your presentation to the judges, it is important that you are prepared and know what you are going to say before you say it. Students are expected to clearly and concisely introduce and explain what the project was designed to find out, and what results and conclusions were obtained. Rehearsing your presentation, you can get an opportunity to 'work out the bugs' and become comfortable talking about your project. You should start out rehearsing by yourself and then find volunteers to come judge and present it to them. You'll be calmer and more composed on the Science Fair day if you are prepared and know what you are going to say.

10. Do your Best!

At the Science Fair, try to be as calm and professional as possible. Know what you are talking about and be confident, you will be fine!!!

Science Fair Websites

The internet is rich sources of information for science fair projects. There are many more than the ones listed below:

http://www.refdesk.com/factsci.html
Science information resources

http://www.virtualsciencefair.com/
Ideas for projects and list of resources online

http://www.all-science-fair-projects.com/category0.html
Lots of suggestions for projects

https://www.education.com/science-fair/applied-mathematics/
Math projects for science fair

http://www.scifair.org/
Calls itself "The ultimate science fair resource"

http://www.school.discovery.com/sciencefaircentral/
Comprehensive help with creating a project

http://www.erinwiggin.com/sciencefair.html
Comprehensive help with creating a project

Student friendly Science Fair sites:

http://www.sciencebuddies.org

http://www.education.com/science-fair/

http://www.sciencekids.co.nz/projects.html

http://www.exploatorium.edu/snacks

http://www.all-science-fair-projects.com/

http://www.scienceproject.com/

Question: What do you want to know?	Hypothesis: What is your predictions?
Material/ Procedures: What will you need?	
Data / Observations: Test the hypothesis. Make observations and collect data.	What do you see? Draw

Data: Summarize/ observations

Conclusions: What does your data tell you?

Hugh Sutherland Science Fair
Grade 5-12 Judging Form

➢ Scientific Method (CHOOSE ONLY **ONE** CATEGORY **A, B, C**)

A. Experimental Project- an investigation undertaken to test a specific hypothesis using experimentation, usually featuring the identification and control of variables.

Hypothesis

1. Background research was integrated into the formation of the hypothesis.....0 1 2 3 4 5
2. The hypothesis related to the problem was clearly stated and provided direction to the project.....0 1 2 3 4 5

Method

3. Experimental design was clearly described and appropriate for solving the problem.....0 1 2 3 4
4. Manipulated and responding variables were identified and understood.....0 1 2 3 4
5. Variables that could be controlled and not controlled were recognized.....0 1 2 3 4
6. Repetition of tests and /or appropriate sample size were used to achieved reliable results.....0 1 2 3 4
7. The progress of the project was recorded in a log book.....0 1 2 3 4

Analysis/ conclusions

8. Appropriate methods were used to present and analyze the data.....0 1 2 3 4 5
9. A connection was established between the hypothesis/ objective and results.....0 1 2 3 4 5
10. The conclusions were supported by the data.....0 1 2 3 4 5

========== TOTAL / 45_____

B. Innovation Project- the development and evaluation of innovative devices, models or techniques in technology, engineering or computers.

Problem

1. Existing knowledge and background research were integrated into the formation of the problem.....0 1 2 3 4 5
2. A problem was clearly identified and provided direction for the project.....0 1 2 3 4 5

Method

3. Suitability and limitations of the chosen material/ methods were understood.....0 1 2 3 4 5
4. The project designed was efficient, effective and address the problem.....0 1 2 3 4 5
5. The project designed was appropriately tested.....0 1 2 3 4 5
6. The progress of the project was reported in a log book.....0 1 2 3 4 5

Analysis/ conclusions

7. Our connection was established between the problem and results.....0 1 2 3 4 5
8. Testing was carried out to modify the project design and make adjustments as the project proceeded.0 1 2 3 4 5
9. The students understood how to tell the problem was solved.....0 1 2 3 4 5

TOTAL / 45_____

C. **Study Project** - the collective and analysis of data to reveal evidence of a fact or situation of scientific interest, possibly including the study of causes and effects relationships or theoretical or scientific data.

Problem

1. Background research was integrated into the formation of the problem.....0 1 2 3 4 5
2. The problem was clearly stated and provided Direction and appropriate scope for the project.....0 1 2 3 4 5

Method

3. The information acquired shows depth and variety..... 0 1 2 3 4 5
4. The data gathered were reliable and appropriate (multiple independent sources were used)..... 0 1 2 3 4 5
5. The research data were comprehensive and well-organized..... 0 1 2 3 4 5
6. The progress of the project was recorded in a log book..... 0 1 2 3 4 5

Analysis/Conclusions

7. Data was critically analyzed..... 0 1 2 3 4 5
8. Conclusions were supported by the gathered data.....0 1 2 3 4 5
9. New ideas were formed..... 0 1 2 3 4 5

TOTAL / 45_____

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1. Scientific Method (Write down a TOTAL score from ONE CATEGORY A, B, C) TOTAL / 45 _____

2. **Communication**

1. Oral presentation clear, logical, concise and enthusiastic, use scientific vocabulary..... 0 1 2 3 4 5
2. Answers to questions were clear and significant depth of understanding..... 0 1 2 3 4 5
3. Research and material were properly documented with appropriate credits and citations given..... 0 1 2 3 4 5
4. Visual display was effective, logical and self-explanatory layout..... 0 1 2 3 4 5
5. A concise, clear, organized written report accurately describing the project is presented..... 0 1 2 3 4 5

TOTAL / 25_____

3. **Creativity and insight**

1. The project difficulty is appropriate for the grade level of the student..... 0 1 2 3 4 5
2. Approach the problem with originality..... 0 1 2 3 4 5
3. Indicated that improvements can be made to the project..... 0 1 2 3 4 5
4. Identified practical applications, further research or experimental for the project..... 0 1 2 3 4 5
5. House showing resourceful use of equipment and or material..... 0 1 2 3 4 5
6. The student demonstrated knowledge of the project..... 0 1 2 3 4 5

TOTAL / 30_____

4. **TOTAL SCORE** - Add the scores from section 1, 2, 3 and record the final Mark here.

TOTAL / 100 _____