

Secondary Project: Scoring Guidelines

CALGARY YOUTH SCIENCE FAIR

Section 1. Scientific Method – Experimental Projects

	Excellent	Good	Fair
Hypothesis / Objective	(9-10) A significant amount of background research has been done. Research materials have been sought in order to formulate a scientifically significant experiment.	(7-8) Some background research was conducted. The hypothesis is relevant and well considered.	(5-6) Little background research was done, but an appropriate problem / hypothesis was formulated based on existing knowledge.
Method	(18-20) The experimental procedure and materials used are clearly laid out. The experiment was repeated to ensure accurate results, or a large sample size was used. Manipulated and responding variables are indicated and understood. An effort was made to control many outside factors that could affect the experiment. Log book contains a full record of the experiment, including all original data.	(15-17) The experimental procedure and materials are described. The experiment has been repeated at least once, or a large sample size was used. Manipulated and responding variables are clearly stated. Log book contains a record of the project.	(12-14) There is some description of the procedure and materials used. Experiment may not have been repeated, but enough observations were conducted to make a conclusion. Manipulated and responding variables are mentioned. Log book contains at least a description of the tasks undertaken over the course of the project.
Analysis / Conclusions	(13-15) Significant analysis of the data has been conducted and clearly presented (charts, graphs, calculations, etc.). Most possible sources of error have been acknowledged. Analysis is sufficient to support any conclusions made.	(11-12) Some analysis has been done and presented, and is relevant to the stated problem / objective. Sources of error have been considered and some effort has been made to control external factors. Appropriate conclusions have been drawn.	(9-10) Data has been clearly displayed. Obvious sources of error and controlled conditions are acknowledged. Conclusions are relevant to the presented data.

Scientific Method – Innovation Projects:

	Excellent	Good	Fair
Problem / Objective	(9-10) A significant amount of background research has been done. Research materials have been sought in order to ensure a successful and appropriate design.	(7-8) Some background research was conducted. The problem reflects a reasonable amount of background knowledge.	(5-6) Little background research was done, but an appropriate problem was formulated based on existing knowledge.
Method	(18-20) The design has acknowledged all aspects of the problem. Significant testing has been done. If possible, the results have been quantified. A complete description of any methods and materials is included. Log book contains a full record of the experiment, including all original data.	(15-17) The design shows an understanding of the factors involved. The methods and materials used are described. Conscious effort has been made to deal with possible factors and variables, including some testing. Log book contains a record of the project.	(12-14) There is some description of the methods and materials used. Some factors have been considered to optimize the design. Log book contains at least a description of the tasks undertaken over the course of the project.
Analysis / Conclusions	(13-15) Results of testing have been used to improve the design, and any possible shortcomings have been described. Attempts have been made to overcome these shortcomings. Results of testing are used to accurately describe the effectiveness of the design.	(11-12) Any testing done has been related to the effectiveness of the design. Some discussion of the effectiveness of the design and its shortcomings is included, and is appropriate to the testing done.	(9-10) The effectiveness of the design is discussed. The possibility of shortcomings is mentioned.

Secondary Project: Scoring Guidelines (Cont'd)

Scientific Method – Study Projects:

	Excellent	Good	Fair
Problem / Objective	(9-10) A significant amount of background research has been done. Research materials have been sought in order to formulate a problem that is both relevant and reasonable in scope.	(7-8) Some background research was conducted. The problem is relevant and well considered.	(5-6) Little background research was done, but an appropriate problem was formulated based on existing knowledge.
Method	(18-20) A variety of sources was used in the course of research. Care has been taken to verify the accuracy of the information. Information is comprehensive and covers all aspects of the problem. Alternate approaches or theories have been considered and analyzed. Log book contains a full record of the project, including all original data.	(15-17) Multiple sources were used in the course of research. Some effort has been made to ensure that the sources used are reliable and are related to the study. Significant effort has been made to cover all aspects of the problem. Log book contains a record of the project.	(12-14) Few sources were used in research, or the sources used were not independent, but the sources used are reliable and authoritative. Enough information is present to address the problem. Log book contains at least a description of the tasks undertaken over the course of the project.
Analysis / Conclusions	(13-15) The research material has been analyzed to form conclusions related to the problem. Any inconsistencies in the data gathered have been analyzed critically to determine what information is reliable.	(11-12) Conclusions have been drawn based on the research material gathered. Inconsistencies have been acknowledged, and some effort has been made to determine the reliability of the information.	(9-10) Research material is presented in a manner that is relevant to the problem. The reliability of the data gathered has been considered, and the possibility of inaccurate or conflicting data has been acknowledged.

Sections 2 – 4

	Excellent	Good	Fair
Section 2. Creativity and Insights	(22-25) The student showed independent thinking in the design, implementation and analysis of the project. All aspects of the project (problems, extensions, improvements, applications, etc.) have been considered.	(18-21) The student was able to independently expand on any existing form of the project, and has acknowledged problems, extensions, improvements and applications that can be made.	(15-17) The student may not have designed the project independently, but shows an understanding of the aspects of the project and has considered problems, extensions, improvements and applications.
Section 3a. Communication	(9-10) All required information was presented in the display. All material from other sources was properly credited and applicable forms were present. Student was able to answer all questions relevant to the project.	(8-9) All components of the project are present. All material from other sources was properly credited and applicable forms were present. Student was able to answer questions.	(6-7) Most aspects of the project were readily available. Some research from outside sources lacked citations. Student was able to answer most questions with little difficulty.
Section 3b. Video presentation	(9-10) A video was uploaded with a concise runtime, visual organization, coherence, consistent aesthetics and high video/audio quality.	(8-9) A video was uploaded with organized content, some aesthetics and generally steady camera work/audio quality.	(6-7) A video was uploaded but organization, coherence and aesthetics are lacking. Audio and visual quality is watchable.
Section 4. Degree of Difficulty	(9-10) The student has approached material beyond their grade level, and has gained new understanding.	(7-8) The student has done independent research and made some progress in understanding.	(5-6) The student has learned something outside of their curriculum from the project.