

# EDMONTON REGIONAL SCIENCE FAIR

JUDGING RUBRIC – March 11, 2023

PROJECT # \_\_\_\_\_

Judge's Name: \_\_\_\_\_

## 1. SCIENTIFIC METHOD (Chose only one category, 1A, 1B or 1C)

*Judge the project in only one of the following categories:*

*Experimental (1A), Innovation (1B) or Study (1C)*

*If you have difficulty choosing a category Please contact a member of the ERSF evaluations committee before judging.*

***Please use the following scale:***

5 Excellent  
4 Good  
3 Satisfactory  
2 Weak  
0 Not Present

**1A. EXPERIMENTAL PROJECT** – an investigation undertaken to test a scientific hypothesis using experimentation, usually featuring the identification and control of variables.

### PROBLEM / HYPOTHESIS

- Existing knowledge and background research were integrated into the formation of the problem/hypothesis ..... 0 1 2 3 4 5
- The hypothesis related to the problem, was clearly stated, and provided direction for the project ..... 0 1 2 3 4 5

SUBTOTAL / 10 \_\_\_\_\_

### METHOD

- Experimental design was clearly described and appropriate for solving the problem..... 0 1 2 3 4 5
- Controlled, manipulated and responding variables were identified and understood..... 0 1 2 3 4 5
- Repetitions of tests and/or appropriate sample size were used to achieve reliable results ..... 0 1 2 3 4 5
- Logbook recorded progress of the project including detailed procedures, results and original data ..... 0 1 2 3 4 5

SUBTOTAL / 20 \_\_\_\_\_

### ANALYSIS / CONCLUSION

- Appropriate methods were used to present and analyze data (e.g. graphs, charts and statistics)..... 0 1 2 3 4 5
- Sources of errors and experimental limitations (e.g. the effect of variables that could not be controlled) were understood ..... 0 1 2 3 4 5
- Conclusions were related to the problem/hypothesis and were supported by the data presented ..... 0 1 2 3 4 5

SUBTOTAL / 15 \_\_\_\_\_

**1B. INNOVATION PROJECT** – the development and evaluation of innovative devices, models, or techniques in technology, engineering or computers.

### PROBLEM / HYPOTHESIS

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

SUBTOTAL / 10 \_\_\_\_\_

### METHOD

- Suitability and limitations of the chosen materials/methods were understood ..... 0 1 2 3 4 5
- The project design was efficient, effective, and addressed the problem/objective ..... 0 1 2 3 4 5
- The project design was appropriately tested ..... 0 1 2 3 4 5
- Logbook recorded progress of the project, including detailed procedures, results and modifications ..... 0 1 2 3 4 5

SUBTOTAL / 20 \_\_\_\_\_

### ANALYSIS / CONCLUSION

- A connection was established between the problem/objective and results ..... 0 1 2 3 4 5
- Testing was carried out to modify the project design and correct shortcomings as the project proceeded ..... 0 1 2 3 4 5
- The student understood how well the problem was solved ..... 0 1 2 3 4 5

SUBTOTAL / 15 \_\_\_\_\_

**1C. STUDY PROJECT** – the collection and analysis of data to reveal evidence of a fact or situation of scientific interest, possibly including surveys, the study of cause and effect relationships, or theoretical investigations of previously published scientific data.

**PROBLEM / HYPOTHESIS**

- 1. Existing knowledge and background research were integrated into the formation of the problem/objective ..... 0 1 2 3 4 5
  - 2. An objective was clearly identified and provided direction and appropriate scope for the project ..... 0 1 2 3 4 5
- SUBTOTAL / 10 \_\_\_\_\_

**METHOD**

- 3. The information acquired showed depth and variety ..... 0 1 2 3 4 5
  - 4. The data gathered were reliable and appropriate (multiple independent sources were used and verified)..... 0 1 2 3 4 5
  - 5. The research data were comprehensive and well-organized ..... 0 1 2 3 4 5
  - 6. Logbook recorded progress of the project, including detailed research notes, resources and discussions ..... 0 1 2 3 4 5
- SUBTOTAL / 20 \_\_\_\_\_

**ANALYSIS / CONCLUSION**

- 7. Key scientific concepts, including alternate viewpoints, of the research topic were identified and explored..... 0 1 2 3 4 5
  - 8. Critical analysis/interpretation of research material was presented (e.g. comparison of sources, surveys and statistics) ..... 0 1 2 3 4 5
  - 9. Logical conclusions based on the research were reached..... 0 1 2 3 4 5
- SUBTOTAL / 15 \_\_\_\_\_

**2. CREATIVITY AND INSIGHT**

- 1. The problem was approached with originality ..... 0 1 2 3 4 5
- 2. Independent motivation, design and thinking were demonstrated..... 0 1 2 3 4 5
- 3. Resourceful use of equipment and/or materials was shown ..... 0 1 2 3 4 5
- 4. Improvements than can be made to the project were indicated..... 0 1 2 3 4 5
- 5. Practical applications and future research for the project were identified..... 0 1 2 3 4 5

**SECTION 2 TOTAL / 25** \_\_\_\_\_

**3. COMMUNICATION**

- 12. The oral presentation was clear, logical and concise ..... 0 1 2 3 4 5
- 13. Answers to questions were clear and showed significant depth of understanding ..... 0 1 2 3 4 5
- 14. All required written information including credits, citations and applicable ethics/consent forms were presented ..... 0 1 2 3 4 5
- 15. The visual display was effective, with a logical and self-explanatory layout..... 0 1 2 3 4 5

**SECTION 3 TOTAL / 20** \_\_\_\_\_

**4. DEGREE OF DIFFICULTY**

- 10. The project was exceptional (considering the student's grade level) ..... 0 1 2 3 4 5
- 11. The student gained a deeper understanding of the topic ..... 0 1 2 3 4 5

**SECTION 4 TOTAL / 10** \_\_\_\_\_

**5. TOTAL SCORE** Add the total scores from Section 1 through 4 and record the final mark here.

**TOTAL SCORE / 100** \_\_\_\_\_

**COMMENTS TO PROJECTS FOR THE STUDENTS**

Please fill out this form and submit it with the Judges Marking Form. DO NOT give to the students. These comments will be returned to them tomorrow. It is important for judges to give as many comments as possible to give the students a better idea of the judges' opinions in order for them to improve upon their projects.

Project Number: \_\_\_\_\_

<b>FEEDBACK FOR THE STUDENTS)</b>
<b>Strengths</b> _____
<b>Recommendations</b> _____

<b>Judge's Name (Please Print!)</b>	<b>Judge's Signature</b>
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