



PRSF Judge Briefing

Peel Region Science Fair • Judge Briefing and Training

For new and returning judges supporting Grade 7–12 STEM projects

Your role is to evaluate fairly, ask thoughtfully, and leave students more confident in their scientific thinking.



How Judges Should Use This Deck

This briefing is designed for at-home review before the fair and as a quick reference on judging day.



Review Before the Fair

Read the deck before arriving so the live briefing can focus on calibration and questions.

Pay special attention to the rubric, interview flow, project-level anchors, and concern protocol.

Bring questions to the judge briefing rather than waiting until interviews begin.



Digital Scoring Readiness

PRSF is moving to a digital scoring system for judging records and deliberation support.

Before judging starts, confirm your login, device access, assigned projects, and submission process.

Keep scores confidential and complete required fields before deliberation.

Use the same expectations whether you are a new judge or a returning judge.

Today's Briefing Goals

What judges should be ready to do by the end of this deck.

- Understand PRSF's purpose, pathway, and recent CWSF achievements.
- Apply the PRSF evaluation framework consistently across grade levels and project types.
- Conduct interviews that are professional, encouraging, evidence-based, and age-appropriate.
- Ask questions that reveal understanding, originality, limitations, and student ownership.
- Respond appropriately to concerns about AI use, plagiarism, adult help, or continuation projects.

We are not only selecting awards. We are shaping how students experience science.

About the Peel Region Science Fair

A regional platform for student STEM inquiry, innovation, and discovery.

PRSF at a glance

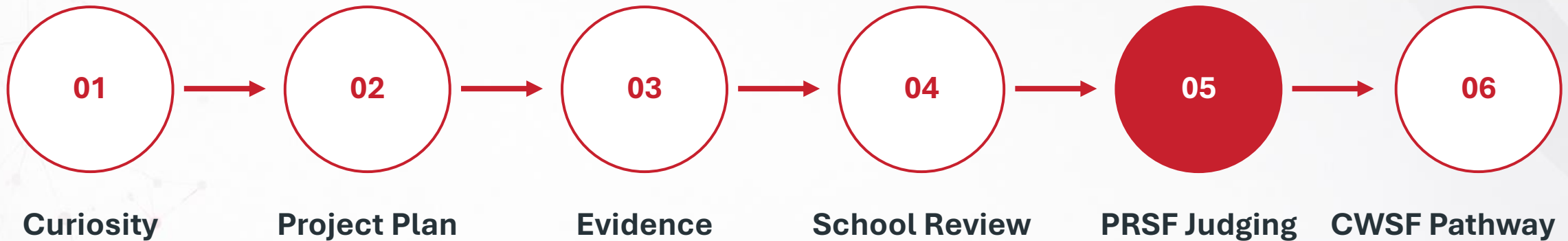
- Regional science fair for eligible Grade 7–12 students in Peel Region.
- Welcomes inquiry, discovery, engineering, study, digital, AI, and mathematical projects.
- Provides a pathway from school or classroom projects to PRSF and, for top projects, CWSF.
- Mission: inspire and empower students through STEM education, innovation, and discovery.



Brampton • Caledon • Mississauga

Where Judges Fit in the Student Pathway

Judging is one stage in a longer learning process.



Judge focus

Evaluate the project and student understanding; ask questions that help reveal evidence, reasoning, originality, limitations, and ownership.

Why This Work Matters: Team Peel Achievements

PRSF students have succeeded at the national level.

Recent CWSF results

2026: all six Team Peel finalists earned medals: five Silver and one Bronze, plus special and challenge awards.

2025: one Silver, three Bronze, and a Renewable Energy Award.

2024: two Silver medals and a Nano-Technology Award.

2023: PRSF restart year; one Silver and one Bronze at CWSF.



Judging helps identify strong projects, but it also helps every student leave with a stronger STEM identity.

Start Holistically, Then Score Specifically

Begin with the whole project story before narrowing into detailed rubric evidence.

1. See the Big Picture

What question, problem, or need is the student addressing?

What type of project is it: experiment, engineering, study, digital/AI, or math?

What is the student's own contribution?

2. Follow the Evidence Story

How was the project tested, built, observed, or analyzed?

What data, logbook evidence, prototype, or source analysis supports the conclusion?

What limitations or next steps does the student understand?

3. Apply the Rubric

Score Scientific Thought, Originality, and Presentation using PRSF criteria.

Avoid letting one strong or weak feature dominate the entire score.

Use the digital scoring fields to document evidence-based judgments.

Holistic first does not mean subjective scoring — it means understanding the project before judging its parts.



What Judges Are Evaluating

Use the criteria—not personal preference—to guide scoring.

65%

Scientific Thought & Knowledge

purpose ·
method/design ·
evidence · analysis ·
conclusions · principles

15%

Originality & Creativity

student contribution ·
novelty · grade-
appropriate innovation ·
impact

20%

Presentation & Display

clear communication ·
board/logbook · graphs ·
questions · independent
work

A beautiful board cannot compensate for weak evidence or a project the student cannot explain.



Rubric Form

Peel Region Science Fair Evaluation Form

Project Number: _____

Judge Number: _____

Scientific Thought and Knowledge (Value 65 %)	1 = Poor, 5 = Average, 10 = Excellent										Total:
<u>Abstract</u> : Is there a well-defined objective/purpose and project summary?	1	2	3	4	5	6	7	8	9	10	
<u>Introduction</u> : Is the objective well motivated/explained?	1	2	3	4	5	6	7	8	9	10	
<u>Approach</u> : Does the design of the investigation effectively address the problem identified?	1	2	3	4	5	6	7	8	9	10	
<u>Analysis</u> : Was the analysis scientifically valid?	1	2	3	4	5	6	7	8	9	10	
<u>Conclusions</u> : Are the conclusions valid based on the analysis?	1	2	3	4	5	6	7	8	9	10	
<u>Discussion</u> : Does the student accurately comment/reflect on the conclusions suggested by their data?	1	2	3	4	5	6	7	8	9	10	
Does the student have clear ideas for future work?	1	2	3	4	5	6	7	8	9	10	
Does the student understand the scientific principles related to the project at an appropriate level?	1	2	3	4	5	6	7	8	9	10	



Rubric Form

Originality and Creativity (Value 15 %)	1 = Poor, 5 = Average, 10 = Excellent										
Does the project show originality appropriate to the student's grade level?	1	2	3	4	5	6	7	8	9	10	Total:
Evidence of student contribution to the design and execution?	1	2	3	4	5	6	7	8	9	10	
Is there an impactful application or human benefit?	1	2	3	4	5	6	7	8	9	10	

Presentation and Display (Value 20 %)	1 = Poor, 5 = Average, 10 = Excellent										
Does the exhibit convey details clearly and effectively and uses charts/graphs in a meaningful way?	1	2	3	4	5	6	7	8	9	10	Total:
Does the exhibit demonstrate good workmanship?	1	2	3	4	5	6	7	8	9	10	
Does the student effectively communicate their understanding?	1	2	3	4	5	6	7	8	9	10	
Does the student handle judge's questions competently?	1	2	3	4	5	6	7	8	9	10	
Does the student demonstrate that they have completed the project independently (as could be expected given the grade level and safety)?	1	2	3	4	5	6	7	8	9	10	

Overall Evaluation					
The overall level of the project was:	Level:	1	2	3	4



What Constitutes an Excellent Project?

Look for the strength of the science story, not just surface polish.

Strong scientific substance

- Clear and meaningful question, problem, or design challenge.
- Appropriate method, design process, data source, or algorithmic approach.
- Reliable evidence with enough depth for grade level.
- Analysis goes beyond description: the student explains what evidence means.

Strong student ownership

- Student can explain decisions, errors, limitations, and next steps.
- Originality is evident through a new angle, improvement, application, or interpretation.
- Conclusion is evidence-based—not just “it worked” or “my hypothesis was correct.”
- The project is understandable to both specialists and scientifically literate non-specialists.



Judge the Project Type Fairly

Different project types produce different kinds of evidence.

Experiment / Discovery

Variables, controls, repeated trials, valid measurements, fair test design.

Study / Investigation

Reliable data sources, selection criteria, bias/limitations, meaningful analysis.

Innovation / Engineering

Criteria, constraints, prototypes, testing data, redesign based on evidence.

Digital / AI / Math

Model choice, algorithm understanding, validation, limitations, ethical use of data.

Do not force every project into the mold of a traditional experiment.



Project-Level Calibration

Use these anchors to keep scoring consistent.

Level 1 – Basic

Known or predictable investigation; replica device; limited or unfocused analysis.

Level 2 – Noteworthy

Focused investigation; meaningful student insight; improved design or stronger analysis.

Level 3 – Advanced

Stronger controls/testing, quantitative analysis, originality, or significant interpretation.

Level 4 – Exceptional

Rigorous evidence, deep understanding, originality, meaningful impact, or advanced innovation.

Project level reflects scientific depth and student understanding—not simply poster quality.



Judging Mindset: Fair, Curious, Encouraging

Strong judging is both rigorous and student-centred.

Evaluate with discipline

- Use the same criteria for every project.
- Anchor comments in evidence you observed or heard.
- Ask questions before drawing conclusions.
- Separate “I personally like this topic” from project quality.

Interact with care

- Open warmly; pronounce the student’s name correctly when possible.
- Listen actively and give students time to think.
- Do not embarrass, lecture, argue, or reveal scores.
- End with encouragement focused on effort, reasoning, or future potential.



Recommended Interview Flow

A simple structure helps judges stay consistent and on time.

1. Welcome

Create a calm start. Confirm the student is ready.

2. Student Summary

Listen for the question/problem, method, evidence, conclusion.

3. Evidence Questions

Probe data, controls/criteria, analysis, limitations, and logbook.

4. Ownership Questions

Ask why decisions were made and what the student would improve.

5. Close

Thank the student; do not discuss scores or awards.

PRSF judging interactions may allow up to about 20 minutes with each judge, including presentation and questions.



Interviewing Junior Students: Grades 7–8

Focus on clarity, student ownership, and basic evidence reasoning.

- Use accessible language; define technical terms when needed.
- Ask one question at a time and allow wait time.
- Look for a clear question/problem, honest process, simple data, and student understanding.
- Accept emerging analysis, but ask students to connect at least one result to their conclusion.
- Encourage confidence: “Show me where your evidence supports that.”



Junior excellence is not about adult-level sophistication; it is about student-owned inquiry and clear evidence.

Interviewing Intermediate Students: Grades 9–10

Expect stronger planning, analysis, and explanation of limitations.

Look for

- A more focused question, design challenge, or research problem.
- Appropriate sample size, repeated testing, validation, or source selection.
- Graphs and analysis that reveal patterns, anomalies, or uncertainty.
- Clear explanation of errors, limitations, and next steps.

Ask

- “How did you decide your testing conditions or criteria?”
- “What result surprised you, and how did you interpret it?”
- “What would make your conclusion stronger?”
- “How is your project different from what already exists?”

Interviewing Senior Students: Grades 11–12

Expect mature reasoning, originality, and deeper scientific or technical command.

Look for

- Advanced understanding of theory, design trade-offs, or methodology.
- Quantitative analysis, model validation, statistical reasoning, or rigorous testing.
- Honest treatment of limitations, uncertainty, ethics, and practical impact.
- Student can explain expert-level ideas to a non-specialist STEM judge.

Ask

- “Why was this method/model the most appropriate choice?”
- “What assumptions did your approach depend on?”
- “How would your project scale, fail, or be validated externally?”
- “What is the most important limitation of your work?”

How to Form Strong Questions

Use a ladder that moves from description to reasoning.

Describe

“Walk me through what you did.”

Explain

“Why did you choose this method or design?”

Justify

“How does your evidence support your conclusion?”

Compare

“What changed from your first version or initial idea?”

Extend

“What would you test next, and why?”

Start broad, then probe. Avoid “gotcha” questions and avoid giving the answer inside the question.

Question Bank by Evaluation Area

Choose questions that reveal what the rubric needs you to evaluate.

Scientific Thought & Knowledge

- What was your main objective or problem?
- How did your method/design produce reliable evidence?
- What result is most important, and why?
- What limitation most affects your conclusion?

Originality & Communication

- What part of this project is most clearly your own contribution?
- What already existed before your project?
- What human, social, environmental, or practical benefit might this work have?
- Explain your project to someone outside your field.

Question Bank by Project Type

Probe the kind of evidence the project claims to use.

Experiment

What did you change, measure, and keep constant? How many trials did you use?

Study

How did you choose sources/data? What bias or limitation could affect interpretation?

Engineering

What criteria defined success? What changed after testing your prototype?

Digital / AI / Math

What model or algorithm did you use? How did you validate the result?

What Evidence Should Judges Look For?

Evidence is more than a final graph.

- Raw data, dated notes, prototypes, sketches, failed attempts, source lists, or code/process documentation.
- Graphs with labels, units, appropriate scale, and interpretation—not decoration.
- A conclusion that connects question/problem, method, evidence, analysis, and principles.
- Student explanation of errors, limitations, anomalies, and improvements.
- Consistency between the board, logbook, presentation, and student answers.



If the student cannot explain the evidence, the evidence should not receive full credit.



Supporting Nervous Students and Teams

The interview should reveal understanding—not reward confidence alone.

For nervous students

- Start with an easy, open prompt: “Tell me how you chose this topic.”
- Allow students to point to their board or logbook while answering.
- If an answer is unclear, ask them to rephrase rather than moving immediately to judgment.
- Use calm tone and avoid rapid-fire questioning.

For team projects

- Give each student a chance to speak.
- Ask individual ownership questions: “What part did you lead?”
- Watch for one student dominating because of confidence rather than contribution.
- Assess shared understanding as well as individual contribution.

Digital Scoring and Judge Notes

Use the scoring platform to record consistent, evidence-based judgments.

- Complete scores in the digital scoring system for each assigned project.
- Score what you observe and what the student can explain—not reputation, school, polish, or topic preference.
- Save or submit each score as instructed, and check that all required fields are complete before deliberation.
- Write evidence-based notes: “clear repeated trials and control group” is more useful than “good project.”
- Record integrity concerns separately from score rationale and escalate before finalizing when needed.
- Do not reveal scores, rankings, award possibilities, or confidential deliberation details.



When Something Feels Concerning

AI use, plagiarism, adult help, or reused projects require careful handling.

AI overuse

Student cannot explain methods, code, analysis, or wording; answers sound memorized.

Adult or mentor takeover

Student understands results superficially but not decisions, design, or data handling.

Plagiarism / copied work

Board/report closely resembles online material; citations are weak; student cannot explain choices.

Existing / continuation project

Student cannot clearly separate this year's new work from previous work.



Concern Protocol: Ask, Document, Escalate

Protect fairness and avoid accusations during student interviews.

1. Ask neutrally

“Can you explain how you produced this graph/code/model?”

2. Probe ownership

“Which decision was most important, and why did you make it?”

3. Document specifics

Write what was observed, not assumptions or labels.

4. Continue professionally

Do not accuse, shame, or disqualify during the interview.

5. Escalate

Bring the concern to the Judging Chair / Chief Judge promptly.

Integrity concerns should be handled through process, not confrontation.

AI Use: Appropriate Support vs. Warning Signs

Students may use tools, but the reasoning and understanding must be their own.

Appropriate support

- Brainstorming project questions or practice questions.
- Explaining background concepts or coding ideas.
- Improving grammar or readability while preserving student thinking.
- Using AI/ML as part of a project when the student can explain the model and validation.

Warning signs

- Invented or unverifiable data.
- Report, script, code, or analysis the student cannot explain.
- Hidden sources or unclear tool use.
- Overly polished text paired with weak spoken understanding.

Common Judging Pitfalls to Avoid

Experienced judges still need calibration.

- Overweighting your own specialty or penalizing unfamiliar project areas.
- Confusing poster polish with project strength.
- Rewarding complexity when the student does not understand it.
- Penalizing quieter students who show strong evidence and reasoning.
- Comparing Grade 7 projects directly against Grade 12 depth rather than age-appropriate expectations.
- Letting one impressive device, graph, or buzzword replace a full evaluation of the project.



Award Deliberation Principles

Rank projects using criteria, evidence, and fair comparison.

When comparing projects

- Return to the rubric categories before discussing favourites.
- Separate scientific depth from display quality.
- Consider grade/division expectations and project type.
- Use notes from interviews to support decisions.

When disagreeing

- Name the criterion being debated.
- Ask: “What evidence supports that score?”
- Avoid over-correcting for confidence or presentation style.
- Escalate unresolved integrity or eligibility issues through the judging process.

The Impact You Make as a Judge

Your interview may be the moment a student sees themselves as a scientist.

- You validate careful thinking, honest evidence, and perseverance.
- You model how scientists and engineers ask questions respectfully.
- You help students learn that uncertainty and failed attempts are part of discovery.
- You strengthen Peel's STEM culture and help identify students ready for the next level.
- A good judge leaves students challenged, respected, and encouraged.



The best judging experience is rigorous enough to be fair and encouraging enough to be memorable.

Judge Day-of Checklist

A concise reminder before you begin interviews.

- Review the rubric and any PRSF-specific instructions before starting.
- Check your assigned projects, timing, digital scoring platform access, and deliberation location.
- Keep questions open, age-appropriate, and evidence-focused.
- Do not reveal scores, rankings, award possibilities, or confidential deliberation details.
- Document concerns and bring them to the Judging Chair / Chief Judge.
- Thank every student for their work.

Sources and Useful References

Keep these references available during judge preparation.

- Peel Region Science Fair website: peelsciencefair.ca
- PRSF CWSF 2026 page and Team Peel achievement posts: peelsciencefair.ca/cwsf-2026
- Youth Science Canada Help Centre: “How am I judged at the Canada-Wide Science Fair?”
- Youth Science Canada volunteer/judge information: youthscience.ca/get-involved and youthscience.ca/alumni
- PRSF participant and teacher resource packages, 2026–2027

Thank you for supporting student research, innovation, and discovery in Peel Region.

Questions on judging day: contact the Judging Chair / Chief Judge.