Crystal Investigation Judging Rubric

Rules and presentation:

- The crystal must be Potassium Aluminium Sulphate (Potash Alum)
- Any assistance received, including the use of AI, must be acknowledged
- Crystals are judged upon;
  - Regularity i.e. sharpness of edges,
  - Smoothness of faces
  - Clarity - overall aesthetic appeal
- Size is no longer a major criterion
- Crystals whose largest dimension is less than 9 mm will not be considered for certificates of merit under the RACI national competition guidelines

Where very similar crystals are difficult to rank for prizes or certificates then the logbooks and the hypotheses proposed will be considered to make a decision. The logbook should state dates from the start to the finish of the growing period and each entry dated and countersigned where possible.

Crystal - Regularity	Crystal shows excellent regularity of edges, and symmetrical growth (Diamond shape)	Crystal shows mostly good regularity of edges, with only small imperfections evident. Shows mostly symmetrical growth	Regularity of edges somewhat uneven or chipped. May be somewhat asymmetrical	Poor regularity of edges Crystal highly asymmetrical (not diamond shaped or lop-sided growth)
Crystal - Faces	Faces are highly light-reflective and smooth (no growth lines evident)	Faces are mostly light-reflective and fairly smooth (may be slightly uneven)	Faces are poorly light-reflective, demonstrate minimal growth lines or patterning and/or may show minimal evidence of efflorescence (whitening of crystal)	Faces exhibit little to no light reflection, high levels of uneven growth or patterning and/or high levels of efflorescence (whitening of crystal)
Crystal - Clarity	Excellent clarity of crystal. Highly transparent through the crystal. Crystal is clear (without imperfections) throughout Excellent overall aesthetic appeal	Good clarity of crystal. May have some small imperfections throughout. Good overall aesthetic appeal	Reasonable clarity of crystal. Some small amount of opacity in the centre of the crystal or discolouration throughout or a large number of imperfections. Reasonable aesthetic appeal	Crystal demonstrates high levels of opacity and or discolouration Poor aesthetic appeal
Logbook - Hypothesis	Original and creative hypothesis. Clearly and concisely states scientific purpose. Very accurate use of scientific terminology	Mostly creative hypothesis. Scientific purpose stated well. Accurate use of scientific terminology	Hypothesis shows some originality and/or creativity. Fair expression of scientific purpose although may be somewhat inaccurate with science content. Uses some scientific terminology or terminology has some errors	Unoriginal hypothesis. Unclear scientific purpose or inaccurate or no science content. Hypothesis may be stated as a question Scientific terminology inaccurate or poorly expressed
Logbook - Evaluation and analysis	Science content is accurate and highly relevant Excellent grammatical skills. Analysis and conclusions are highly logical and strongly evidence based. Shows excellent analysis.	Scientific content is mostly accurate with some content lacking depth and relevance Good grammatical skills with very few errors. Analysis and Conclusions are logical and evidence based to a sound level.	Scientific content not always accurate with content lacking depth and relevance Sound grammatical skills shown but with occasional errors. Some attempt at analysis with indication of conclusions being evidence based.	Minimal scientific content evident Poorly written with many errors. Analysis and conclusions are missing, or not supported by evidence.
Risk Assessment	Risks assessed and control measures clearly described. Full details of all assistance clearly given	Most risks identified and their control measures clearly described. Good details of assistance given.	Some risks identified but little information on controlling them. Details of assistance outlined.	Risks not identified. Assistance not acknowledged but evident in project