Think Science! Judging Rubric for Years 9-10

Science Inquiry skill	Developing	Proficient	Excelling
Questioning and predicting	• states a question and/or aim that can be scientifically investigated • describes some scientific concepts that underlie the topic being investigated • proposes a testable hypothesis and uses understanding of relevant science concepts to support the hypothesis	• states a clear question and/or aim that can be scientifically investigated • describes and provides some explanation of the context, and the relevant scientific concepts that underlie the topic being investigated • proposes a testable and well-informed hypothesis, using reasoning based on background research to support the hypothesis	• states a clear, precise question and/or aim that can be scientifically investigated • comprehensively describes and explains the context, and the relevant scientific concepts that underlie the topic being investigated • proposes a testable and well-informed hypothesis, using detailed scientific reasoning based on background research to support the hypothesis
Planning and conducting	• identifies and manages risks and any ethical concerns • identifies the independent and dependent variables and describes how they are measured, and identifies variables to be controlled • describes a logical and reproducible experimental procedure, including measures that contribute to a fair test, and that uses equipment to generate data with precision	• assesses risks and any ethical concerns and describes safety measures taken • identifies the independent and dependent variables and describes how they are measured, and identifies and controls for possible sources of error • describes a clear, logical experimental procedure that is valid and reproducible, describes measures that contribute to a fair test, and ensures accurate and reliable measurements	• assesses risks and any ethical concerns, comprehensively describes and clarifies reasons for safety measures taken • clearly identifies the independent and dependent variables and describes how they are measured, and identifies and explicitly controls for possible sources of error • describes a clear, detailed, logical experimental procedure that is valid and reproducible, explicitly describes measures that contribute to a fair test, and ensures accurate and reliable measurements
Processing, modelling and analysing	• creates an appropriately labelled table to display measured data and aggregated results • constructs further appropriate representation of results, including diagrams, photos, graphs, models. • clearly states suggested patterns, trends and relationships in data, and identifies anomalies	• creates a well-organised and appropriately labelled table to display measured data and aggregated results • constructs further appropriate representation to clearly display results, including diagrams, photos, graphs, models, mathematical relationships • identifies and describes suggested patterns, trends, relationships and anomalies	• creates a well-organised and appropriately labelled table to display comprehensive measured data and aggregated results • constructs further appropriate representation to clearly display results, including diagrams, photos, graphs, models, mathematical relationships • identifies and describes, in detail, suggested patterns, trends, relationships and anomalies

Science Inquiry skill	Developing	Proficient	Excelling
Evaluating	• explains how experimental results relate to relevant scientific concepts and theory	• constructs evidence-based arguments that experimental results are consistent or not with relevant scientific concepts and theory	• constructs comprehensive evidence-based arguments that experimental results are consistent or not with relevant scientific concepts and theory
	• describes a real-life situation related to the investigation or a further application of the research	• explains how the investigation is relevant to the real world and describes a further application of the research	• comprehensively explains how the investigation is relevant to the real world and describes further applications of the research
	• identifies possible sources of error and assumptions in the investigation and suggests some valid improvements to the investigation	• Reflects on the experimental set up, reliability of results and the validity of the investigation, and suggests some valid improvements to the investigation	• reflects critically on the experimental set up, reliability of results and the validity of the investigation, and proposes viable improvements to validity of investigation and accuracy of data
	• formulates a clear conclusion that is supported by results	• formulates clear conclusions that are consistent with experimental evidence, and states confirmation or not of hypothesis	• formulates clear, precise conclusions that are consistent with experimental evidence, and states confirmation or not of hypothesis
Communicating	• presents a presentation that showcases some parts of their investigation	presents a well-sequenced and engaging presentation, which clearly showcases all parts of their investigation	• presents a well-sequenced, clear, concise, and very engaging presentation, which grabs audience attention, and clearly showcases and details all parts of their investigation
	• basic use of digital tools and presentation is significantly shorter or longer than 4 min	• good use of digital tools and presentation is approximately 4 min	• excellent use of digital tools and presentation is approximately 4 min

Rubric content follows the Australian Curriculum v9, 2022