

This assessment report is based on assessments for 2023. It may not reflect achievement standards that have been updated.

2023 NCEA Assessment Report

Subject:	Materials and Processing Technology (RAS)
Level:	Level 1
Achievement standard(s):	92014, 92015

General commentary

Both standards require candidates to reflect on independent choices made in relation to their design or feasible outcome. Candidates whose response demonstrated an authentic viewpoint or reflected their own technological practice were more likely to be awarded the higher grades.

Report on individual achievement standard(s)

Achievement standard 92014: Demonstrate understanding of sustainable practices in the development of a Materials and Processing Technology design

Assessment

The assessment was submitted as a report in the form of a slideshow.

Commentary

The interpretations of sustainable practice in candidate responses were very varied. There is scope within the achievement standard for a wide range of sustainable practices to be explored and applied in a candidate's individual context. The sustainable practices chosen should be specific to the design being developed.

Candidate understanding of kaitiakitanga in relation to the design they were developing needed further exploration in their responses. How candidates were being kaitiaki in their design needed to be explicitly described or explained to reach the higher grade ranges. In addition to the unpacking of kaitiakitanga in the standard, candidates could explore:

- why the end user needed the product being designed
- how the design benefited the person / whānau / community in relation to the environment
- how the design connected to the notion of well-being (mental, physical, or emotional).

Grade awarding

Candidates who were awarded **Achievement** commonly:

- described a design and attempted to list specifications relating to the design
- identified the end user (person / whānau / community)
- identified and described materials / components used in the design

- demonstrated evidence of some research into sustainable practices
- identified some suitable alternatives but did not explain why one alternative was better than another in terms of sustainable practice
- identified at least one improvement to the design
- included stakeholder feedback.

Candidates who were awarded **Achievement with Merit** commonly:

- explained how material / component choices were made
- explained how research into sustainable practices influenced their material / component choices
- explained how their decisions affected kaitiakitanga (people / land)
- explained more than one improvement to the design for an end user (person / whānau / community)
- described how feedback from more than one stakeholder was considered in the development of their design
- explained how materials were used economically
- explained how waste materials were disposed.

Candidates who were awarded **Achievement with Excellence** commonly:

- evaluated material / component choices
- explained how kaitiakitanga (people / land) guided their material choice
- explained the sustainable practices they followed and why
- explained in detail any improvements relevant to the design for the end user (person / whānau / community)
- explained how they used the stakeholder feedback, from multiple sources, in the development of their design.

Candidates who were awarded **Not Achieved** commonly:

- focused on the design process rather than sustainable practices
- focused on the testing of materials and trialling of techniques of the design rather than sustainable practices
- made little or no link to the application of sustainable practices
- demonstrated little or no knowledge of sustainable practices
- undertook projects that were overly scaffolded or prescribed, which gave minimal scope to make their own decisions or vary the outcomes.

Achievement standard 92015: Demonstrate understanding of materials and techniques for a feasible Materials and Processing Technology outcome

Assessment

The assessment was submitted as a report in the form of a slideshow.

Commentary

In general, the quality of candidate responses was good. However, in some cases candidates who lacked an understanding of subject-specific terms struggled to reach the higher grades.

One important example is the term “feasible outcome”, which a significant minority of candidates seemed not to understand (see Explanatory Note 4 of the standard for a definition). It should be noted that in 2024, materials selection and testing has been removed from the standard.

Grade awarding

Candidates who were awarded **Achievement** commonly:

- identified physical and functional attributes for their feasible outcome
- described a test carried out on materials and provided evidence
- described a technique trialled and provided evidence
- were able to describe the influence of testing materials and / or trialling techniques for their feasible outcome.

Candidates who were awarded **Achievement with Merit** commonly:

- described physical and functional attributes, and embedded the process carried out within the description of the outcome
- described tests carried out on materials and techniques trialled
- provided evidence of tests and trials, both written and photographic, and described their findings
- explained how stakeholder feedback influenced one or more decisions made in relation to their feasible outcome
- explained the influence of materials choices and techniques on the physical and functional attributes of the outcome.

Candidates who were awarded **Achievement with Excellence** commonly:

- provided physical and functional attributes and then described these attributes in detail
- accurately identified tests carried out on materials and techniques trialled
- provided clear evidence of tests and trials carried out, described their findings, and explained how these findings improved their feasible outcome
- evaluated information gained from relevant tests and trials and explained how the findings were used to improve their feasible outcome
- reflected on stakeholder feedback; explained and justified how or why the information was used to improve the feasible outcome.

Candidates who were awarded **Not Achieved** commonly:

- did not supply relevant evidence (e.g. photographs) that demonstrated understanding
- had difficulty identifying tests carried out on materials
- had difficulty identifying techniques to trial
- did not know the difference between materials, components, and tests
- were unable to describe a test carried out
- were unable to identify or describe physical and functional attributes.