

2025 NCEA Assessment Report

Subject:	Materials and Processing Technology
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. In contrast, candidates whose responses appeared to rely heavily on templates, or whose technological practice seemed less student-led, tended to struggle. Responses that exceeded the recommended length typically included a significant amount of information not relevant to the assessment.

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 a digitally submitted portfolio.

Commentary

Candidates who effectively integrated sustainable practices within an authentic design process were more likely to achieve higher grades. Responses that mentioned sustainable practices without linking them to the specific project context tended to achieve lower grades.

Interpretations of sustainable practice varied widely. Some candidates demonstrated only minimal incorporation, with limited evidence of research or understanding. Others were able to meet the standard more readily when the nature of the context or identified need supported sustainable approaches, provided they documented their design process effectively. At a basic level, some candidates viewed sustainable practice simply as using leftover or scrap materials from previous projects. In some cases, candidates described what happened to offcuts or waste, such as placing them in the school scrap bin for reuse by others. However, claims of using scrap materials were sometimes questionable, for example, sourcing materials from school storerooms and presenting them as waste. Justifications often focused on reducing emissions by avoiding transport of raw stock, though these materials had typically already been delivered through standard supply chains.

Other responses involved upcycling second-hand clothing or fabrics sourced from second-hand shops, with candidates justifying this as diverting materials from landfill. While this approach was common, some responses lacked consideration of what happened to offcuts and waste, raising questions about the validity of sustainability claims. In reality, second-hand clothing is already part of an established reuse cycle, and removing usable garments for projects can inadvertently create additional waste. A few candidates also referenced seasonal produce as evidence of sustainable

practice, but did not explain its relevance in sufficient detail. Candidates occasionally misinterpreted “economic use of resources” as cost saving. In EN2 of the standard, this phrase refers primarily to minimising waste as part of demonstrating kaitiakitanga towards the environment, rather than financial considerations. Examples of economic use explored by candidates this year included turning off ovens promptly, using minimal water for cleaning, and opting for hand tools. A few candidates also discussed how unsustainable a material was (e.g., nylon fabric or plywood) and proceeded with the project regardless, sometimes providing factually incorrect justifications such as claiming that using these materials reduced harm by removing them from the environment.

Evidence that the candidate has undertaken a technology project is essential. This includes photos, sketches, or screenshots showing development work. Sustainable practices need to be presented in the context of the project. Photos of practices in isolation, without clear links to design decisions, are insufficient. Similarly, without a sketch or photo of the final outcome, it is difficult for the marker to place sustainable practices in context.

Design development was missing in some responses, and some candidates failed to meet the standard because they only included stakeholder feedback. However, from 2026 (under version 4 of the standard), candidates will be able to demonstrate refinement or evaluation of sustainable practices through discussion of stakeholder feedback, research into sustainable practice, or a combination of these. Stakeholder feedback will no longer be a requirement to meet the higher grades.

Grade awarding

Candidates who were awarded **Achievement** commonly:

- described a design and attempted to list specifications relating to the design, although specifications were not always explicit or clearly defined
- identified the end user (person / whānau / community)
- showed evidence of research into sustainable practices, often relying on general statements rather than demonstrating sustainability as an ongoing, developing process
- identified alternatives or options without explaining why one was more sustainable than another, and in some cases justified material choices using factually incorrect or weak reasoning (e.g. claiming that repurposing unsustainable materials prevented environmental harm)
- considered equipment use at a basic level
- described the economic use of resources, typically in simple terms such as turning off equipment when finished, partially filling sinks, or using hand tools
- identified at least one improvement to the design
- showed evidence of receiving stakeholder feedback from at least two stakeholders
- used recyclable, upcycled, or scrap/waste materials, though sometimes without considering the deeper sustainability of all materials and techniques used.

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

- explained how material and component choices were made
- explained how research into sustainable practices influenced these choices
- described how consideration of kaitiakitanga (in relation to the environment) affected their decisions
- identified and explained more than one improvement to the design for an end user (person, whānau, or community)
- explained how feedback from at least two stakeholders was considered during design development
- explained how materials were used economically, such as minimising waste

- explained how waste materials were disposed of responsibly
- refined their use of sustainable practices throughout the design process and explained this refinement in detail, e.g. nesting when cutting wood or fabrics, using scrap offcuts for other projects, or repurposing vegetable waste to make stock for a dish
- explained the rationale for making their projects increasingly sustainable, with design development influenced by research, trialling, and stakeholder feedback.

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

- researched and evaluated material and component choices
- considered alternative materials to inform and justify decisions
- explained how kaitiakitanga guided material choices
- linked kaitiakitanga to people as well as the environment
- explained the sustainable practices they followed
- detailed improvements made to the design for the end user (person, whānau, or community)
- justified design decisions, even when these were less sustainable
- explained and acted on stakeholder feedback from at least two stakeholders during design development
- explained how materials were used economically, such as minimising waste
- explained how waste materials were disposed of responsibly
- demonstrated a deeper understanding of sustainability concepts and their effects, locally and globally
- placed their design within a broader global sustainability context and iteratively considered multiple viewpoints throughout the design process
- minimised or eliminated project waste where possible
- provided well-written, cohesive responses.

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

- focused on the design process rather than sustainable practices
 - focused on testing materials and techniques rather than sustainable practices
 - made little or no link to the application of sustainable practices
 - demonstrated little or no knowledge of sustainable practices
 - showed no evidence of research into sustainable practices
 - failed to consult at least two stakeholders
 - undertook projects that had minimal or no scope for independent decision-making
 - produced projects with multiple outcomes that lacked sufficient development.
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Achievement standard 92015: Demonstrate understanding of techniques selected for a feasible Materials and Processing Technology outcome

Assessment

The assessment was a digitally submitted portfolio.

Commentary

Many candidates misunderstood functional attributes, often treating them as materials or construction steps (e.g. “wood cuts”, “joining”, “mixing”) rather than outcomes-focused qualities such as strength, durability, flexibility, or versatility.

Evidence sometimes lacked relevance to the standard, with diary-style notes, aesthetic-focused slides, unclear or very small images, and excessive or unnecessary content. In some cases, images appeared to be sourced from the internet rather than showing the candidate’s own work.

There was frequent confusion between techniques, materials, tests, trials, and design decisions. As techniques are the primary focus of the standard, a clear understanding of the distinction between materials and techniques is critical for candidates to meet the achievement criteria. In some cases, candidates appeared to be using assessment materials developed for the piloted version of the standard, which often limited their ability to reach higher levels of achievement. It is important to note that materials testing is no longer a component of this standard and therefore should not be included as evidence in candidate submissions.

Visual evidence of techniques was often weak or missing, and alignment between chosen techniques and stated functional attributes was inconsistent.

Stakeholder feedback was sometimes inappropriate (e.g. peers rather than end users or experts) or difficult to read.

Despite these issues, there were examples of innovative projects and strong explanations of techniques and improvements made to achieve a feasible outcome.

Grade awarding

Candidates who were awarded **Achievement** commonly:

- described the feasible outcome and its intended environment
- listed and described at least one functional attribute for the feasible outcome
- listed and described at least two techniques trialled in relation to the functional attribute(s) identified
- compared and selected the technique for the feasible outcome
- described the techniques selected for use in the feasible outcome
- provided some evidence of techniques trialled against the functional attributes.

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

- described the feasible outcome and its intended environment
- listed and described one or more functional attributes for the feasible outcome
- listed and described at least four techniques trialled in relation to the functional attribute identified
- compared and selected the technique for the feasible outcome
- provided clear evidence of techniques trialled against the functional attributes
- demonstrated understanding of the trialling undertaken in relation to the identified functional attributes

- incorporated feedback from at least two stakeholders, including end users or experts
- explained how feedback from stakeholders was considered when making decisions for the feasible outcome.

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

- described their feasible outcome and intended environment clearly
- identified at least two functional attributes required for their feasible outcome
- trialled at least two techniques for each of the functional attributes
- provided clear visual and written evidence of the techniques trialled, and their results
- analysed trial results against the functional attributes and evaluated the final technique selection
- gathered quality feedback from appropriate stakeholders (client/end user and expert) throughout the selection process
- analysed stakeholder feedback from at least two (non-peer) stakeholders to justify decisions, including the selection of techniques to meet the functional attributes
- maintained explicit links between required attributes, techniques trialling, stakeholder input, and the outcome's feasibility
- produced well-structured reports, with functional attributes and techniques clearly identified
- justified decision-making in relation to the desired feasible outcome.

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

- did not describe the design and its intended environment
- did not identify appropriate stakeholders (end user or expert) and spoke generically about their feedback
- did not provide enough evidence of the functional attributes
- did not describe or explain techniques trialled against the functional attributes
- confused materials with techniques
- focused on material selection and comparison of material properties (e.g. different flours, sugars, fabrics, finishes) rather than trialling and evaluating techniques against the desired functional attributes of the outcome, as required by the standard
- confused the material experimentation methods of combine/manipulate/transform/form as being the techniques they used
- made a copy of their internal work/portfolios rather than following requirements listed in the assessment specifications
- did not identify attributes or techniques, or had incomplete work
- named the techniques they trialled, but did not describe the techniques in relation to the functional attributes
- gave a diary-like account of making their outcome, with no discussion about the techniques identified or evidence of any trialling to decide in relation to an attribute
- named two techniques with different purposes in relation to the functional attribute without accompanying evidence of trialling for selection, instead saying they would "choose both" – for example, "Creamed" the butter and sugar, then "folded" in the flour; "Biscuit joined" the wood, then "sanded" the edges
- discussed two techniques, but did not say how they selected the most appropriate one for their outcome.