

Pilot Assessment Schedule – 2023

Materials and Processing Technology: Demonstrate understanding of materials and techniques for a feasible Materials and Processing Technology outcome (92015)

Assessment Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<p>The candidate describes materials and techniques selected for a feasible outcome.</p> <p>Evidence could include:</p> <ul style="list-style-type: none"> • listing the materials / components tested and describing the results from the tests performed for materials / components selection • listing the techniques tested and describing the results from the tests performed for technique selection • describing the impact of materials / components and techniques selection on the feasibility of the outcome. 	<p>The candidate examines the physical and functional attributes of selected materials and techniques for a feasible outcome.</p> <p>Evidence could include:</p> <ul style="list-style-type: none"> • listing the materials / components tested and examining the results from the tests performed for materials / components selection • listing the techniques tested and examining the results from the tests performed for technique selection • explaining selection of materials / components and techniques from testing • explaining the impact of materials / components and techniques selection on the feasibility of the outcome. 	
<p>The candidate describes the most appropriate physical and functional attributes for a feasible outcome.</p> <p>Evidence could include:</p> <ul style="list-style-type: none"> • describing the design and its intended environment • identifying an end user (person / whānau / community) • describing physical attributes of the feasible outcome • describing functional attributes of the feasible outcome. 	<p>The candidate examines how stakeholder feedback improved decisions for a feasible outcome.</p> <p>Evidence could include:</p> <ul style="list-style-type: none"> • explaining the design for a feasible outcome and its intended environment and end user • examining the most appropriate physical and functional attributes for use in the feasible outcome • explaining how they considered stakeholder feedback when making decisions for their feasible outcome. 	<p>The candidate evaluates how selection, stakeholder feedback, and the physical and functional attributes of materials and techniques connect to improve the feasibility of the outcome.</p> <p>Evidence could include:</p> <ul style="list-style-type: none"> • evaluating the selection of materials / components and techniques from testing for use in the feasible outcome • reflecting on stakeholder feedback to improve the feasibility of the outcome based on the required physical and functional attributes.

Sample evidence

Achievement	Achievement with Merit	Achievement with Excellence
<p>I chose to use nylon straps for the messenger bag because my testing showed they were the strongest and hardest wearing. I did an elongation test on the nylon strap and it didn't stretch. My cousin was my stakeholder and she preferred the nylon.</p>	<p>I chose to use nylon straps for the messenger bag because my testing showed they were the strongest and hardest wearing and this is important because my cousin cycles to work and will use the bag outside a lot in all weather conditions.</p> <p>The elongation test showed that the nylon strap only stretched 1 mm after being stretched for 1 minute. This meant the nylon was suitable to use for the messenger bag.</p> <p>I talked to my cousin about what she carries in her bag, she said a laptop and other stuff for work so the straps need to not stretch.</p>	<p>I chose to use nylon straps for the messenger bag after conducting tests to determine the most suitable material. I tested different materials such as leather and polyester webbing straps. Leather straps performed the best with little to no stretch when I carried out the elongation test.</p> <p>My cousin wants a bag that lasts a long time and will prioritise function over aesthetics. The leather also looked the best but I decided not to use it because it was easily stained by water. The bag's intended use by my cousin, who cycles to work and will expose the bag to various weather conditions, influenced my decision to prioritise strength and durability over aesthetics based on her feedback.</p> <p>Polyester was also strong, performing best in the elongation test of the materials I tested. This material also would do better in varied weather conditions so is a more suitable choice for the bag.</p>

NB: This standard does **not** require the design to be developed into a physical outcome.

N1	N2	A3	A4	M5	M6	E7	E8
The response shows limited understanding of the selection of materials and techniques for a feasible outcome.	The response shows some attempt at understanding the selection of materials and techniques for a feasible outcome.	The response shows understanding of the selection of materials or techniques for a feasible outcome,	The response clearly shows understanding of the selection of materials and techniques for a feasible outcome.	The response explains the selection of materials and techniques for a feasible outcome, although some parts of the explanation may be partial or weak.	The response clearly explains the selection of materials and techniques for a feasible outcome.	The response evaluates the selection of materials and techniques for a feasible outcome, although some parts of the discussion may be partial or weak.	The response clearly evaluates the selection of materials and techniques for a feasible outcome.

N0 = No response; no relevant evidence.

Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0–2	3–4	5–6	7–8

Appendix: Marker determination of validity of evidence

Professional judgment

The marker will determine a grade using their professional judgment based on a holistic examination of the evidence provided.

Demonstration of understanding

A response must use information to **demonstrate understanding**. The marker must exercise professional judgment to decide if it does so. The following guidance is provided to assist in making this professional judgment.

- A response **demonstrates understanding** if it can be described wholly or substantially by one or more of the statements in the **left-hand column**.
- A response **does not demonstrate understanding** if it can be described wholly or substantially by one or more of the statements in the **right-hand column**.
- If a response is comprised of both used and reproduced information, the marker must decide if it meets the standard **when the reproduced information is ignored**.

Evidence of <u>use</u> of information	Evidence of <u>reproduction</u> of information
<p>Prompts and / or questions have been provided and the candidate has responded to these.</p> <p>The response uses information relating to the standard, the prompts, or questions.</p> <p>Information from the candidate’s practice, performance, research, the practice of others, and or teaching, is related to the candidate’s experiences.</p> <p>The response shows understanding that could be expected to come from a course of instruction derived from Level 6 of <i>The New Zealand Curriculum</i>.</p> <p>Information is presented in the candidate’s own voice.</p> <p>Referenced complex research information unchanged by paraphrase is related to other information in a manner that constructs meaning.</p>	<p>Information is presented that does not relate to the prompts.</p> <p>Information is presented in isolation from the candidate’s experiences.</p> <p>Little or nothing is offered to suggest the information is related to a course of instruction at Level 6 of <i>The New Zealand Curriculum</i>.</p> <p>Information is not in the candidate’s voice. The word choice, sentence structure, sentence length, punctuation etc. are not what a candidate could be expected to produce.</p> <p>Unreferenced complex information is presented as though it is the candidate’s own work.</p>

In general, the marker will exercise the following judgment:

N1	N2
<p>The response does not include enough evidence to show understanding, and / or is substantially reproduced with little mediation by candidate.</p>	<p>The response is substantially produced by the candidate but demonstrates little understanding.</p> <p>One part of the required response may be completely missing, or several parts may be weak.</p>

Where doubt exists as to whether evidence has been produced, mediated, or used by the candidate, the doubt must be exercised to the benefit of the candidate.