

# 2025 NCEA Assessment Report

Subject:	Digital Technologies and Hangarau Matihiko
Level:	2
Achievement standard(s):	91898, 91899

## General commentary

This was the first year of the 91898 standard being assessed by examination, and it was good to see similar results to previous years. It was also pleasing to see fewer breaches in both papers this year.

## Report on individual achievement standard(s)

### Achievement standard 91898: Demonstrate understanding of a computer science concept

#### Assessment

Overall, candidates responded well to the examination format and candidates were rewarded for their depth of understanding and their application of knowledge gained over the year's study. It is important to remember that the content for any particular year can be found in the specifications.

#### Commentary

The difference between grade levels came down to depth of understanding. Lower-performing candidates tended to focus on the physical "gear" (like describing sensors or switches) rather than the actual computer science concepts behind them. In contrast, higher-performing students didn't just describe the technology – they were able to explain *how* it processes data and *why* it has evolved over time.

Candidates need to ensure they take note of the 2026 Assessment Specifications for 91899, as there are some changes to note.

#### Grade awarding

Candidates who were awarded **Achievement** commonly:

- described what the car sensors are processed by – AI processes that input to make decisions such as applying the brake or keeping in the lanes
- gave answers that related to the healthcare or question asked, not a generic description of the computer science concept
- fully explained the 'Key Exchange Problem' effectively, rather than saying "it's hard to share passwords"; they discussed interception or the man-in-the-middle risk
- explained the difference between hashing and encryption, and use for hashing in passwords or file integrity
- gave answers to all parts of the questions.

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

- were strong on impact; rather than just saying that AI is used in healthcare, they explained the opportunity it created (e.g. faster diagnosis, leading to better patient outcomes)
- understood the 'Why'; in the encryption question, they could explain why dip switches were insecure (limited combinations, easy to clone) compared with modern encryption
- showed technical accuracy, using the correct terms; for example, they didn't confuse 'encoding' (binary dip switches) with actual 'encryption'
- connected technical to human by effectively discussing human factors, such as how AI in social media impacts user behaviour or mental health, rather than just talking about the algorithms.

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

- used evaluation over description; they didn't just describe SHA-256 or Neural Networks, they critically evaluated why they are effective and / or what their limitations are
- tackled the 'future proofing' questions; specifically, in Q1(d) (AI Social Media) or Q2(c) (AES), they offered genuine insights into how we can protect against unknown future threats (such as quantum computing or deepfakes)
- gave comprehensive contexts; in the car safety question, they linked the sensors, the AI processing, and the ethical issues into one cohesive discussion
- applied multiple specific examples; e.g. using the diagrams provided in the exam (like the Neural Network layers or the garage door dip switches) to anchor their explanations, showing they could apply their knowledge to the material in front of them.

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

- missed the concept, failing to identify or describe the core concept accurately – for example, thinking the dip switches were a form of high-tech encryption rather than a basic binary setting
- learned the wrong topic; wrote long essays about a topic not in the exam (e.g. viruses or coding) instead of answering the AI or encryption prompts
- gave surface-level answers, such as listing features (e.g. "Cars have GPS") without explaining the computer science behind them (discussing just the sensor)
- did not answer the question asked; for example, in Q1(c) they might have talked about AI in general, instead of specifically in healthcare as required
- gave brief or incomplete responses, with large sections of the paper, especially the detailed parts (b) and (c), left completely blank.

---

## **Achievement standard 91899: Present a summary of developing a digital outcome**

### Assessment

This is the last year in which assessment for this standard is by digital common assessment task (DCAT), and it was pleasing to see a greater focus on suitable software. It was noted that many of the digital outcomes were at Level 7 of the curriculum.

## Commentary

Candidates who prepared well tended to achieve stronger results. Teachers and candidates are advised to read the previous year's Assessment Report and the current year's Assessment Specifications, as the focus of what is assessed can change from year to year.

This standard requires candidates to present a summary of developing a digital outcome. The development process may include research and design as well as development, or it may focus mainly on the development 'sprints'.

Where a physical outcome was produced, candidates needed to ensure the report clearly explained the digital component. Candidates working in teams should ensure the report focuses on the digital work they personally contributed.

Candidates should be working at Level 7 of the New Zealand Curriculum, with outcomes that are clearly advanced and show an appropriate level of skill. Candidates were most successful when their project had sufficient depth to demonstrate both the outcome and the development process, often through a larger project involving multiple standards and iterations. Where projects sat below Level 7, responses were often repetitive and lacked detail. A small number of submissions relied on tools or outcomes not well suited to Level 7 (e.g. Google Sites, Thunkable, Canva, posters/brochures, very simple programmes, non-fungible tokens (NFTs), and 3D models with no clear purpose). Candidates tended to perform better when they had genuine choice and developed an outcome connected to their interests; class-set briefs, tight templates, or standalone internal assessments often limited candidates' ability to explain their own decision-making and development thinking.

In general, responses were often surface level and did not provide a well-rounded insight into the outcome developed. Requirements were commonly stated as broad labels or described using conventions, which should be followed as part of good practice. Instead of writing requirements such as "must be usable" and then describing a navigation bar, "must be functional" and focusing on having no bugs, or "must be easy to play" and listing common controls, requirements should state the goals the outcome needs to achieve to be fit for its context, users, and environment. This creates space for deeper discussion about the specific development decisions that contribute to a quality outcome. For example, but not limited to:

- Website: users can follow an engaging theme and message, and move through the content easily with a clear layout, well-structured sections, and design choices that makes the information accessible and understandable.
- Game: players clearly understand the goal, what they need to do to achieve it, and how the gameplay supports that journey – with fair challenge, clear feedback, and mechanics that make progress feel achievable and rewarding.
- Animation/video: the content is purposeful and the message is communicated strongly – with intentional scripting/storyboarding, pacing, and visual/audio choices that help the audience understand the key idea.
- Programme/app: the programme solves a real, worthwhile problem for a specific user group (not just a classroom scenario) – with features and data that reflect how it would be used in the real world, and a workflow that supports a meaningful task (e.g. booking systems, event registrations, club sign-ups, equipment tracking).
- Electronics device: the device works reliably and safely for its intended purpose, and is practical for real-world use – including a fit-for-purpose housing/enclosure that protects components and supports usability (access to buttons/sensors/ports/data display).
- 2D/3D assets (sprites/models): the assets follow a consistent theme and style that suits the intended environment and audience, and are clear and fit for purpose because they communicate information that supports the experience – for example, users can quickly tell what is interactive, what is dangerous, and what is background. This includes cohesive visual design, appropriate

scale/proportions, and an organised asset pack (correct file types, naming, and folder structure) that supports efficient use.

Candidates generally showed awareness of cultural, ethical, sustainability, and future-proofing considerations, but many responses remained surface level and read as add-ons rather than design constraints shaping decisions. A common pattern was explaining what was *not* included, instead of clearly describing what was intentionally built into the digital outcome, and why. Stronger responses explained how these considerations were balanced against requirements and justified trade-offs with clear links to end-user needs and context. Overall, candidates would benefit from more depth and stronger examples drawn from their own digital decisions, as these considerations reflect real-world expectations and directly determine whether outcomes are safe, respectful, maintainable, and fit for purpose in the intended environment.

Teachers and candidates need to understand the intent of “explain”, “address”, “discuss”, and “evaluate” as used in the Achievement Standard, noting that these words may not be used in the assessment itself. Overall, there was evidence of a drop in candidates’ ability to interpret and answer questions accurately with digital technology vocabulary.

## Grade awarding

Candidates who were awarded **Achievement** commonly:

- used suitable software to create their outcome
- summarised how they developed a digital outcome
- described the digital outcome they developed, including its purpose, key features, and the target audience
- explained a decision made during the development process about who they tested/trialled the outcome with (people or groups), and why that choice of testers was relevant
- explained a decision made during the development process about which subject matter expert(s) they worked with, and why that expert input was relevant
- when working as part of a team/group, focused on the project as a whole and used terminology such as “we”/“us” rather than focusing on the digital component they individually contributed to the project
- created an outcome by following a structured teaching and learning programme, where the class worked on a shared theme and developed the same outcome using a fictional client and brief
- used requirements that were often too generic or compliance-focused and tended to describe avoiding problems rather than clearly explaining the positive, context-specific features that made the outcome effective for its intended users and purpose; implications were often treated at a surface level, with limited explanation of what needed to be considered and how this was meaningfully addressed in the outcome.

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

- stated a specific, context-driven requirement linked to aesthetics, functionality, or usability
- discussed how their digital outcome addressed the requirement by explaining, in detail, what they needed to consider during development to meet the aesthetic/functionality/usability implication, linking decisions to specific digital components and features, and showing how these ensured the outcome met the requirement.
- stated a specific, context-driven requirement linked to cultural, ethical, sustainability, or future-proofing
- explained how they balanced the requirement with cultural, ethical, sustainability and/or future-proofing considerations by discussing the main impacts they had to think about, the trade-offs they had to make, and how they decided what was most important (what they prioritised, what

they adjusted or simplified, and why those decisions best met the needs of their users and context).

- Ethical: not just “I didn’t make it violent” or “I didn’t copy content”, but how they designed responsibly for users, e.g. age-appropriate choices, avoiding harmful stereotypes, managing privacy/permissions if collecting any data, and using properly licensed or self-created assets in a way that supports credibility and trust.
- Cultural: not just “I added some Te Reo” or “My character wasn’t human”, but how the outcome respects the audience and setting, e.g. appropriate language and imagery, thoughtful representation, correct use of cultural elements, and design choices that fit the community the outcome is for.
- Future-proofing: not just “I commented on my code”, but how the outcome could be maintained or extended later, e.g. clear structure and naming, modular design, documentation for set-up/use, consistent file organisation, version control/iterations, and designing so features can be updated without breaking everything.
- Sustainability: not just “digital is sustainable”, but how they reduced waste and improved efficiency, e.g. optimising file sizes and assets, designing for longevity and reuse (modular code that can be updated or swapped out), using clear documentation and file/version management, and designing housings and parts so individual components can be reprinted/replaced rather than remaking the entire build.

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

- worked through a structured development process to create an authentic outcome that they were genuinely interested in
- identified a specific challenge they faced while trying to meet one of their requirements during development, then explained in detail how they addressed it and what solution they used, and evaluated how well their approach worked using clear evidence from their outcome/testing, including a balanced reflection on what worked well and/or what didn’t
- reflected on a development decision where they did not follow advice (from feedback or online information), then discussed how the outcome would have been different if they had followed it and whether that would have had a positive or negative impact on the end user experience, with clear reasons and examples.

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

- omitted evidence that related to one or more of the assessment criteria for Achievement
- created a digital outcome that used suitable software but was not at Level 7 of the NZ Curriculum
- created a digital outcome that had limited scope
- did not describe the digital outcome they created, nor its purpose, key features, and target audience
- did not explain decisions they made during the development process, one relating to testing and trialling with people or groups and one relating to a subject matter expert
- did not explain the relevance of the people or groups and the subject matter expert
- created an outcome that breached legal/copyright laws
- described the non-digital part of an outcome rather than the digital part.