NCEA Review and Maintenance Programme – 2026 updates

Review and maintenance work has been undertaken for all three levels of NZC NCEA for 2026. This pdf document contains the updated assessment materials for **Digital Technologies Level 1**. In January 2026 the NCEA website will be updated with these changes for Level 1, and the pdf version will be removed as it will no longer be necessary. For Levels 2 and 3, assessment materials will be updated on TKI in January. For external assessment specifications, refer to the NZQA website.

Subject: Digital Technologies
Level 1

Product	What's changed?
Conditions of Assessment across all internal standards	Updated to provide clearer guidance around authenticity.
AS1.1 92004 Conditions of Assessment	Updated for clarification about authentic submissions.
AS1.1 92004 Unpacking	Updated for clarification about authentic submissions.
AS1.2 92005 Conditions of Assessment	Updated for clarification about authentic submissions.
AS1.2 92005 Unpacking	Updated for clarification about authentic submissions.
AS1.4 92007 Unpacking	Clarification and alignment with Achievement Standard revisions.
Subject Learning Outcomes	Updated for clarification and to align with 1.4 revisions.

Contents

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NCEA Conditions of Assessment
across all internally assessed standards

Subject:	All NZC subjects
Achievement Standard:	All NZC internal Achievement Standards

The Conditions of Assessment across all Level 1 internally assessed standards have been updated to include clearer guidance about authenticity. Any changes to Standard Specific Conditions of Assessment will be shown separately within this document.

Conditions of Assessment
for internally assessed standards

These Conditions provide guidelines for assessment against internally assessed Achievement Standards. Guidance is provided on:

- specific requirements for all assessments against this Standard
- appropriate ways of, and conditions for, gathering evidence
- ensuring that evidence is authentic.

Assessors must be familiar with guidance on assessment practice in learning centres, including enforcing timeframes and deadlines. The NZQA website offers resources that would be useful to read in conjunction with these Conditions of Assessment.

The learning centre's Assessment Policy and Conditions of Assessment must be consistent with NZQA's Assessment Rules for Schools with Consent to Assess. This link includes guidance for managing internal moderation and the collection of evidence.

Gathering Evidence

Internal assessment provides considerable flexibility in the collection of evidence. Evidence can be collected in different ways to suit a range of teaching and learning styles, and a range of contexts of teaching and learning. Care needs to be taken to allow students opportunities to present their best evidence against the Standard(s) that are free from unnecessary constraints.

It is recommended that the design of assessment reflects and reinforces the ways students have been learning. Collection of evidence for the internally assessed Standards could include, but is not restricted to, an extended task, an investigation, digital evidence (such as recorded interviews, blogs, photographs, or film), or a portfolio of evidence.

Effective assessment should suit the nature of the learning being assessed, provide opportunities to meet the diverse needs of all students, and be valid and fair.

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Ensuring Authenticity of Evidence

Authenticity of student evidence needs to be assured regardless of the method of collecting evidence. This must be in line with the learning centre's policy and NZQA's Assessment Rules for Schools with Consent to Assess.

Ensure that the student's evidence is individually identifiable and represents the student's own work. The evidence must be an accurate reflection of what the student independently knows and can do, according to the Standard being assessed. This includes evidence submitted as part of a group assessment, evidence produced outside of class time or without assessor supervision, and evidence produced with any use of generative artificial intelligence tools (GenAI). GenAI use should be carefully considered in the context of the Standard being assessed and its Conditions of Assessment, discussed with students before the assessment, and its use must be acknowledged. For example, an investigation carried out over several sessions could include:

- teacher guidance on the nature and extent of acceptable GenAI use, if any
- assessor observations and conversations
- meeting with the student at set milestones or checkpoints
- the student's record of progress, such as photographic entries or any GenAI prompts used.

NCEA Conditions of Assessment

Subject:	Digital Technologies
Achievement Standard:	1.1 Create a computer program
Credits:	5

Students may **not** use the computer program created for this Standard for *AS92005 Develop a digital technologies outcome.*

Student work which has received sustained or detailed feedback is not suitable for submission towards this Standard. Assessor involvement during the assessment is limited to providing general feedback on aspects of the work that the student may need to revisit.
Assessors must:

- actively supervise outcome development to ensure authenticity
- carry out ongoing observations and regular conversations with students
- consult with students at key checkpoints, milestones, or both to verify authenticity
- ensure work submitted by students is entirely their own.

Submissions should consist of the student's program (or source code) and evidence of testing.

Selection of evidence for submission is to be carried out by the student.

Students may use a text-based language or a graphical one.

Students must:

- develop and submit their own work.

Students must **not**:

- use any form of generative AI or other tools that can automatically generate content at any stage of outcome development.

Evidence for all parts of this assessment can be in te reo Māori, English, or New Zealand Sign Language.

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NCEA Unpacking the Standard

Subject:	Digital Technologies
Achievement Standard:	1.1 Create a computer program
Credits:	5

The intent of the Achievement Standard

This Standard assesses the ability of ākonga to apply computational thinking skills and knowledge of basic programming structures. Ākonga will identify and correct errors, predict and test outputs, and show that they can document their program for future developers. Higher levels of achievement require ākonga to make effective use of control structures to produce an efficient program that is flexible and robust, and works on expected, boundary, and invalid cases.

Making reliable judgements

A well-structured program will be laid out logically. The code will be easy to follow — particularly for someone else who has to take the code and continue working on it — and comments will explain the purpose of sections of code (as opposed to describing what each line does). Conditions will be handled logically, and the output of the program will be accurate across all likely inputs (both expected and boundary).

A flexible and robust program will function effectively across a range of situations. Flexibility may be demonstrated in the code through the use of constants and variables or derived values in place of literals, or through the reuse of code sections. A robust program will be tolerant of a range of input, may check for the validity of input data, and will manage situations where invalid or out-of-range data is received.

Using conditions and control structures effectively means using those constructs in a way that makes the program more efficient and reduces or eliminates errors. This may include avoiding checking the same condition multiple times through using chained if/else statements, nested conditionals, or the use of multiple conditions with Boolean operators. Effective use of control structures and conditions may also include appropriately ordered conditionals or naturally terminating loops.

The language used must support the programming constructs assessed within the Standard. It may be text-based or graphical, and the resulting program must:

- store at least two types of data in variables
- take input from a user, sensor, or another external source
- produce output based on the program control flow

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- use sequence, selection, and iteration control structures
- use data stored in a collection.

Collecting evidence

The complexity of the computer program developed must be appropriate for Level 6 of *The New Zealand Curriculum*. The computer program created for this Standard may not also be assessed for *AS92005 Develop a digital technologies outcome.*

Kaiako should actively supervise computer program development to ensure authenticity. This includes ongoing observations, regular conversations, and planned consultations with ākonga at key checkpoints, milestones, or both to verify authenticity.

Ākonga must submit evidence that is entirely their own work. They should supply evidence of both testing and debugging of their programs. This evidence should be sufficient for a marker to determine the values being tested, the expected results of the testing, the actual results, and any actions taken as a consequence of the testing.

Ākonga must not use any form of generative AI or other tools that can automatically generate content at any stage of their computer program development.

Given a boundary refers to a range, boundary test cases would normally be numeric. Testing should be carried out on either side of boundary values to understand how code functions.

Testing for invalid cases may include considerations such as mismatched datatypes, empty strings, and out of range values.

Examples of testing could be:

- an organised test table with rows for each test showing the test case, the expected result of the test, the actual result of the test, and improvements made to the program based on testing
- a video walk-through where they describe the test conditions that they considered, demonstrating what happens when these conditions are encountered, and how they were addressed during development.

Possible contexts

A wide range of contexts could be used for assessment and can differ according to the type of computer program that is developed. A quiz might support a local context such as the school environment or an activity that is significant for ākonga. A game could explore a topic of interest. It is important that Assessment Activities allow ākonga to provide evidence to meet all the requirements of the standard.

NCEA Conditions of Assessment

Subject:	Digital Technologies
Achievement Standard:	1.2 Develop a digital technologies outcome
Credits:	5

Student work which has received sustained or detailed feedback is **not** suitable for submission towards this Standard. Assessor involvement during the assessment is limited to providing general feedback on aspects of the work that the student may need to revisit.

Assessors must:

- actively supervise outcome development to ensure authenticity
- carry out ongoing observations and regular conversations with students
- consult with students at key checkpoints, milestones, or both to verify authenticity
- ensure work submitted by students is entirely their own.

Evidence for this Standard will be evident in the outcome itself and through additional forms of evidence that can include:

- annotated screenshots
- audio or video recordings, or screencasts
- planning boards
- testing documentation (such as testing tables)
- images
- written descriptions of what they have done and why (such as specifications).

Submissions should consist of no more than five A4 pages or no more than 3 minutes of video or audio. Selection of evidence for submission is to be carried out by the student.
Students must:

- develop and submit their own work.

Students must **not**:

- use any form of generative AI or other tools that can automatically generate content at any stage of outcome development.

Evidence for all parts of this assessment can be in te reo Māori, English, or New Zealand Sign Language.

NCEA Unpacking the Standard

Subject:	Digital Technologies
Achievement Standard:	1.2 Develop a digital technologies outcome
Credits:	5

The intent of the Achievement Standard

This Achievement Standard assesses how well ākonga can use a technological process to develop a digital technologies outcome.

A digital technologies outcome is developed using digital tools or techniques. It may be partly physical or wholly digital. There are many potential outcomes, examples of which include:

- a digital media outcome such as a webpage or 3D model
- an electronics outcome such as an environmental monitoring system, wearable tech, or robot
- a digital information outcome such as a database.

Ākonga will make optimal use of a range of domain-appropriate tools or techniques to develop the outcome. They will make deliberate development choices based on testing before trialling their outcome with others.

Making reliable judgements

For this Standard, ākonga will identify the purpose, potential users, requirements, and specifications, of a digital technologies outcome.

Understanding the purpose and potential users will allow ākonga to make informed decisions during development to support the outcome to function effectively.

Requirements describe things that need to be done or included, and specifications are measurable criteria that are more technical in nature. For example, a requirement might be that the interface should work for users on different browsers, whereas a specification might be that the interface should display correctly on three specific browsers identified by ākonga.

Appropriate tools or techniques, the conventions relevant to them, and the nature of their optimal use will vary depending on the digital technologies domain that is the focus of the digital technologies outcome. Kaiako should include examples in the Assessment Schedule to indicate benchmarks to ākonga being assessed against this Standard.

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Testing refers to ākonga examining their own outcome, or parts of it. Trialling refers to having other people use the outcome, or parts of it, to make determinations of its suitability for users. The trialling process should include end user(s) and could be a collaborative one: wānanga and talanoa could be used for this. It is preferred that ākonga do not create the outcome for themselves.

Collecting evidence

The complexity of the outcome developed must be appropriate for Level 6 of *The New Zealand Curriculum*. The outcome developed for this Standard may not also be assessed for *AS92004 Create a computer program.*

Kaiako must actively supervise outcome development to ensure authenticity. This should include ongoing observations and regular conversations with ākonga. Kaiako must also consult with ākonga at key checkpoints, milestones, or both to verify authenticity and ensure work submitted by ākonga is entirely their own.

Before embarking on development ākonga should have planned the outcome they will be working towards.

Plans are not assessed as part of this Standard.

Ākonga will ensure that the outcome they develop is fit for purpose.

Ākonga must not use any form of generative AI or other tools that can automatically generate content at any stage of outcome development.

Possible contexts

A Digital Technologies outcome is developed using digital tools and may be partly physical or wholly digital. There are opportunities to apply mātauranga Māori, for example in exploring pūrākau or pakiwaitara as examples of stories that could be represented digitally. Outcomes may be fit-for-purpose solutions in a local context (eg, a sports club) or a context of significance to individual ākonga.

NCEA Unpacking the Standard

Subject:	Digital Technologies
Achievement Standard:	1.4 Design a digital technologies outcome
Credits:	5

The intent of the Achievement Standard

This Standard explores digital technologies design processes. Ākonga will be encouraged to research an authentic issue or context and create a completed design to address the needs of the potential end user(s). As part of the process ākonga should have the opportunity to engage in talanoa, mahi tahi or collaboration, and whakawhiti kōrero or feedback to improve their designs.

Ākonga will be required to generate design ideas that inform the creation of a completed design. They should make sure that there are clear links between design ideas and the completed design they submit.

Through this Standard, ākonga are required to explain relevant principles of Mātāpono Māori, such as manaakitanga or kaitiakitanga as they create their design. In other words, ākonga may:

- evaluate the fitness for purpose of digital technologies outcomes by considering manaakitanga or kaitiakitanga, and the outcomes' social and physical environments
- understand how digital technologies impact on end users by considering the following mātāpono Māori: kotahitanga, whanaungatanga, manaakitanga, wairuatanga, kaitiakitanga, and tikanga
- understand that digital technologies and the concepts that underpin them are influenced by the people that create them and the contexts in which they are developed
- recognise that through kotahitanga and creative and critical thinking they can develop new and innovative solutions to existing problems.

Digital outcomes do not exist in isolation from the context in which they are situated, and the consideration of manaakitanga (the process of showing respect and care to others) or kaitiakitanga (guardianship, stewardship for living things and resources) should be central to a design and development process.

In discussing manaakitanga, ākonga will show respect and care for others, specifically the users of an outcome or those that may be impacted by its use. As they go through the design process, ākonga may ask themselves:

- How will my design uphold the mana of a user?
- How can I design the outcome to be as easy to use as possible?
- How will the thing I'm designing improve peoples' lives?
- How will my design remove barriers to access for a range of users?

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- How can I respectfully involve the potential users in decisions about my design?
- How might other people be impacted by the outcome I'm designing?

In discussing kaitiakitanga, ākonga will show respect and stewardship for living things and resources. As they go through the design process, ākonga may ask themselves:

- What are the resources my outcome would require and what is the environmental impact of those?
- Are there choices that I can make with my design that would be more or less harmful to the environment and living things?
- How can the outcome I design support or promote conservation or protection for the environment and living things?
- How can the outcome I design support kaitiaki in their role?
- How can the outcome I design reduce the excess consumption of resources?

Ākonga will demonstrate the application of feedback in the development of their completed design and explain how their design decisions improved the fitness for purpose of the design. Justifications of how decisions made during the design process contribute to the completed design's fitness for purpose may consider:

- requirements
- potential users
- usability principles
- design principles.

Making reliable judgements

There are many different ways that ākonga might have carried out a design process. These include:

- research
- developing initial concept ideas
- feedback, including end users
- refining the initial concept ideas during the creation of the design.

Ākonga are not required to develop the completed design into a final outcome for this standard.

Collecting evidence

Ākonga should collate appropriate evidence that demonstrates the design process they have used to create the completed design.

At higher levels of achievement, ākonga will have shown how they have responded to feedback from the end user(s) to refine their design and will be able to justify decisions they have made.

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Possible contexts

Design contexts should be authentic and allow for ākonga to follow a design process to address a need or opportunity. Ākonga could apply mātauranga Māori, for example in exploring kaitiakitanga in designing an outcome with an environmental focus. The design may refer to a local context or a context of significance to individual ākonga. Although the digital technologies design does not need to be developed through to an outcome, ākonga may use their design as the starting point for the development of an outcome to meet the requirements of a different assessment.

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Digital Technologies NCEA NZC Level 1
Subject Learning Outcomes for Assessment

Companion to the Digital Technologies Learning Matrix

What are the Subject Learning Outcomes and how can I use them?

Subject Learning Outcomes identify the knowledge and skills that students need to be ready for assessment. Subject Learning Outcomes are informed by the Achievement Standards. They should be used in conjunction with the full suite of NCEA materials. For guidance on assessment criteria, please also refer to the Achievement Standards, Unpacking, and External Assessment Specifications or Conditions of Assessment as appropriate.

Subject Learning Outcomes do not replace any documents. This includes the External Assessment Specifications and Conditions of Assessment. All NCEA materials need to be used to fully understand the requirements of each Achievement Standard and to plan a robust teaching, learning, and assessment programme. Subject Learning Outcomes should not be used to make assessor judgments. The Achievement Standard and the Assessment Schedule for Internal Assessment Activities are used to make such judgments.

Subject Learning Outcomes, alongside other key documents, make clear to teachers what to include in their teaching and learning programmes and what student capabilities to check for, in the lead up to assessment. Each Subject Learning Outcome does not need the same amount of teaching time.

All learning should connect with students' lives in Aotearoa New Zealand and the Pacific. Teachers or students usually select the contexts. As such, contexts are not always specified in the Subject Learning Outcomes. Examples may be provided to illustrate topics and contexts, but they are not prescriptive.

Students are entitled to teaching that supports them to achieve higher levels of achievement. Subject Learning Outcomes mainly align with outcomes for the Achieved level. However, outcomes for higher levels of achievement are also included.

The knowledge and skills in the Subject Learning Outcomes are the expected learning that underpins each Achievement Standard. Students will draw on this learning during assessment. It is important to note that assessment is a sampling process so not everything that is taught will be assessed.

Achievement Standard 92004 (1.1)	Create a computer program	Credits: 5
What is being assessed:	Subject Learning Outcome (Students are able to….)	
Write computer programs.	(Students are able to….) ● Use variables to store data of different data types including strings, numbers and Booleans ● Use variables to demonstrate how a variable value can change during program execution ● Use basic maths operations on variables like add, subtract, multiply, divide and modulus ● Use comparison operations which could include less than, greater than, less than or equal to, greater than or equal to and equal to ● Use selection statements like 'if' and 'if-else' that allows code to be optionally executed based on certain conditions ● Use iterative code structures that could include 'repeat' loops, 'while' loops and 'for' loops to repeat blocks of code based on conditions ● Use logical code sections including nested code where necessary ● Use collections such as lists and arrays to store, access and edit values.	
Testing and debugging programs	(Students are able to….) ● Test programs for functionality by running their code and providing input ○ at higher levels the code should work on boundary and invalid input as well as the expected input. ● debug programs where errors are present, or the results of testing are not as expected, by interpreting error messages and taking the appropriate action to correct the errors.	
Develop code that is well-structured, flexible and robust.	(Students are able to….) ● Efficiently use sequence, selection and iteration control structures in the given language by reducing unnecessary code to make the code more flexible and robust ● Write purposeful code comments that explains the intent of sections of code ● Use appropriate variable names that are indicative of the values being stored ● Use a logical code structure to improve code readability ● Use variables or constants in place of hard coded values (literals) to improve program flexibility.	

Achievement Standard 92005 (1.2)	Develop a digital technologies outcome	Credits: 5
What is being assessed:	Subject Learning Outcome (Students are able to….)	
Describe a digital solution for a need or opportunity.	● Describe the need or opportunity the outcome is intended to meet. ● Identify and describe the potential users of the outcome. ● Clearly describe the outcomes and its requirements: what it needs to do or include, in order to address the need or opportunity. This needs to include the requirements of potential users. ● Describe the specifications of the outcome, including measurable criteria that are more technical in nature than the requirements.	
Apply appropriate tools and/or techniques to create a digital technologies outcome	● Use appropriate digital tools and/or techniques to create an outcome that is fit-for-purpose. ● At higher levels: ○ Follow established practices in the use of tools and techniques for the chosen digital technologies domain ○ Apply tools and techniques optimally (in the best way practicable) to enhance or refine the outcome.	
Test and trial an outcome	● Test their own outcome, or parts of it, to ensure that the digital technologies outcome functions correctly. ● Record relevant evidence of testing. ● At higher levels: ○ make improvements based on testing in order to enhance and refine an outcome to improve the outcome's fitness for purpose and record evidence ○ trial the outcome, or parts of it, with others, including end users, and use this information to improve the outcome, making it more fit-for-purpose ○ record relevant evidence of trialling and any improvements made on the basis of trialling.	

Achievement Standard 92006 (1.3)	Demonstrate understanding of usability in human computer interfaces	Credits: 5
What is being assessed	Subject Learning Outcome (Students are able to….)	
The purpose of human-computer interfaces	● Describe ways that users interact with a digital product's interface and how different types of interfaces can vary significantly. ● Describe how effective the user experience is in the context of specific interfaces. ● For these user experiences: ○ Identify the potential users of a chosen interface ○ Describe a range of possible uses or functions of the interface ○ Describe how different people might use the interface in different ways.	
Usability principles and how they are used in interfaces	● Describe usability principles by explaining what each usability principle does, how it is expected to assist the user, and how it is employed in an interface. ○ Describe how Nielsen's Usability Heuristics have been applied to an interface ○ Describe how consideration of Mātāpono Māori might be evident in an interface ○ Give examples from interfaces of instances where Mātāpono Māori is included: ▪ accurate use of te reo Māori, including correct use of macrons ▪ support for te reo Māori in tools such as spell checking ▪ support for expression of tikanga and mātauranga Māori. ○ Describe how accessibility principles have been applied in an interface. Give examples and outline how the interface is made more usable for people with diverse needs or abilities. ○ Describe other usability principles such as commensurate effort, internal and external consistency, learnability, short-term memory, system response time. Students may opt to describe additional usability principles that they have studied. ● At higher levels of achievement, students are able to: ○ Explain how the usability principles have been applied (or have failed to be applied) in an interface, clearly pointing out where specific principles are evident and explain how they help the user's experience ○ Compare the usability of interfaces by evaluating how each of them applies usability principles or fails to address usability	

	○ Suggest improvements to an interface by identifying where specific usability principles can be applied and explaining how this would assist the user's experience.

Achievement Standard 92007 (1.4)	Design a digital technologies outcome	Credits: 5
What is being assessed:	Subject Learning Outcome (Students are able to….)	
Develop a completed design	● Undertake research to inform development of the completed design. ● Use Mātāpono Māori principles of manaakitanga or kaitiakitanga to inform the design process. ● Generate design ideas for the proposed completed design. ● Make design decisions based on a range of inputs (including feedback and research). ● Make clear links from initial ideas through to the completed design. ● Present the completed design in a format appropriate for the digital technologies domain that was chosen. ● Record evidence of the design process.	
Describe a project's purpose, potential users, and requirements	● Describe the need or opportunity the completed design was intended to meet. ● Identify and describe the potential users of the completed design. ● Identify and describe other stakeholders affected by the completed design. ● Describe the requirements that the completed design needed to meet in order to address the need or opportunity, including the requirements of potential users.	
Describe manaakitanga or kaitiakitanga in relation to the completed design or the design process	● Discuss manaakitanga in relation to the completed design or the design process, for example, explain how they show respect and care for others, including the end users. OR ● Discuss kaitiakitanga in relation to the completed design or the design process, for example, explain how they show respect and stewardship for living things and resources.	
Consider the completed design's fitness for purpose	● Review their completed design and describe how it addresses an identified need or opportunity and the specified requirements. ● At higher levels of achievement, students will be able to: ○ Describe what design principles are and how they have been applied to the completed design. ○ Describe what usability principles are and how their completed design implemented them.	

	○ Present visual evidence of how their design ideas improved based on the design decisions. ○ Present evidence of gathering feedback. ○ Explain how feedback was used to help make design decisions. ○ Describe how design ideas changed deliberately over the course of the design process and identify the *design decisions* where they occurred. ○ Explain how manaakitanga or kaitiakitanga, design principles, and usability principles informed the design decisions. ○ Explain and justify how these changes contributed to improving the fitness for purpose of the completed design.