

Achievement Standard

Subject Reference	Digital Technologies 3.8				
Title	Use complex iterative processes to plan and develop a digital outcome				
Level	3	Credits	6	Assessment	Internal
Subfield	Technology				
Domain	Digital Technologies				
Status	XX	Status date	XX		
Planned review date	XX	Date version published	XX		

This achievement standard involves using complex iterative processes to plan and develop a digital outcome.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
Use complex iterative processes to plan and develop a digital outcome.	Use complex iterative processes to plan and develop an informed digital outcome.	Use complex iterative processes to plan and develop a refined digital outcome.

Explanatory Notes

- 1 This achievement standard is derived from the Technology learning area in *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the material in the *Teaching and Learning Guide for Technology*, Ministry of Education at <http://seniorsecondary.tki.org.nz>.

Further information can be found at <http://www.technology.tki.org.nz/>.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools*, Ministry of Education at <http://technology.tki.org.nz/Technology-in-the-NZC/Safety-in-Technology-Education-revised-2017> and the Health and Safety at Work Act 2015.

This standard is also derived from *Te Marautanga o Aotearoa*. For details of *Te Marautanga o Aotearoa* outcomes to which this standard relates, see the [Papa Whakaako](#) for the relevant learning area.

2 *Use complex iterative processes to plan and develop a digital outcome involves:*

- effectively using recognised project management tools and techniques to plan the development of a digital outcome
- decomposing the outcome into smaller components and trialling these components iteratively
- using an authentic development environment or workflow, as appropriate to the outcome type
- testing that the digital outcome functions as intended
- explaining relevant implications.

Use complex iterative processes to plan and develop an informed digital outcome involves:

- using information from testing and trialling to improve the outcome
- trialling multiple components and/or techniques and selecting those which are most suitable
- using an authentic development environment or workflow effectively
- addressing relevant implications.

Use complex iterative processes to plan and develop a refined digital outcome involves:

- synthesising information from the planning, testing and trialling of components to develop a high quality outcome.

3 Planning and workflow may be completed in different ways (e.g collaboratively) and at different points in the development process for various parts of the outcome.

Examples of planning include:

- using natural language descriptions
- pseudocode to show algorithmic structure
- sketches, schematics, wireframes, or mockups of the outcome.

4 The outcome that is developed by a student, class, or group of students may be a complete outcome for a particular purpose, or a functioning component of a larger solution.

5 Examples of authentic development environments or workflows include:

- setting up an IDE and local server/compiler for programming in a specific language
- using collaborative development tools that allow multiple people to contribute to a project (e.g. cloud based services, commercial project development strategies)
- moving components efficiently between software applications.

6 Examples of implications include:

- social
- cultural
- legal
- ethical

- intellectual property
- privacy
- accessibility
- usability
- functionality
- aesthetics
- sustainability and future proofing
- end user requirements
- health and safety.

- 7 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>.
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Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233