Achievement Standard

Subject Reference	Digital Technologies 1.45				
Title	Construct an algorithmic structure for a basic task				
Level	1	**Credits**	3	**Assessment**	Internal
Subfield	Technology				
Domain	Digital Technologies				
Status	Registered	**Status date**	20 January 2011		
Planned review date	31 December 2014	**Date version published**	20 January 2011		

This achievement standard requires constructing an algorithmic structure for a basic task.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Construct an algorithmic structure for a basic task.	• Skilfully construct an algorithmic structure for a basic task.	• Efficiently construct an algorithmic structure for a basic task.

Explanatory Notes

1 This achievement standard is derived from the Level 6 achievement objectives 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, 2010 at http://seniorsecondary.tki.org.nz.

Further information can be found at http://www.techlink.org.nz.

2 *Construct an algorithmic structure for a basic task* involves:
- identifying the information used in the algorithm
- specifying the types of information
- specifying the variables that will hold the information
- specifying an algorithm for the task as a combination of actions and conditions within sequential, conditional, and iterative structures.

Skilfully construct an algorithmic structure for a basic task involves:
- using iterative structures nested inside other iterative structures to express the solution effectively.

Efficiently construct an algorithmic structure for a basic task involves:

- using nested structures and complex logical expressions combining multiple components to express the solution concisely, simply and clearly.

3 An *algorithmic structure* can be specified informally in natural language (as long as it is unambiguous and precise), in pseudocode, or in the form of diagrams (such as flow charts or Nassi-Shneiderman diagrams).

4 A *basic task* is one that involves input of at least two kinds of predefined types of information (eg numeric, characters, text) and would require a combination of all of sequential, iterative and conditional algorithmic structures.

5 This achievement standard assumes that the task is specified, and it does not require coding a program in a programming language.

6 Conditions of Assessment related to this achievement standard can be found at http://www.tki.org.nz/e/community/ncea/conditions-assessment.php.

Quality Assurance

1 Providers and Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against achievement standards.

2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference 0233