

Achievement Standard

Subject Reference	Generic Technology 3.5		
Title	Demonstrate understanding of how technological modelling supports technological development and implementation		
Level	3	Credits	4
		Assessment	External
Subfield	Technology		
Domain	Generic Technology		
Status	Registered	Status date	4 December 2012
Planned review date	31 December 2016	Date version published	4 December 2012

This achievement standard involves demonstrating understanding of how technological modelling supports technological development and implementation.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Demonstrate understanding of how technological modelling supports technological development and implementation. 	<ul style="list-style-type: none"> Demonstrate in-depth understanding of how technological modelling supports technological development and implementation. 	<ul style="list-style-type: none"> Demonstrate comprehensive understanding of how technological modelling supports technological development and implementation.

Explanatory Notes

- This achievement standard is derived from the Level 8 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, 2012, at <http://seniorsecondary.tki.org.nz>.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools*, Ministry of Education, the Health and Safety in Employment Act 1992; and in the Technology Curriculum Support, May 2010, that can be found at <http://www.technology.tki.org.nz/L3AS/tech-model-index>.

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

- 2 *Demonstrate understanding of how technological modelling supports technological development and implementation* involves:
- explaining how functional modelling is used to test competing and/or contestable factors and inform decisions during the development of a technological outcome
 - explaining how prototyping is used to inform decisions for implementation of a technological outcome.

Demonstrate in-depth understanding of how technological modelling supports technological development and implementation involves:

- explaining how evidence regarding competing and/or contestable factors is gained from different forms of modelling to justify decisions made during the development and implementation of a technological outcome.

Demonstrate comprehensive understanding of how technological modelling supports technological development and implementation involves:

- discussing how modelling enables informed, responsive and defensible decision making during the development and implementation of a technological outcome.

- 3 *Technological modelling* refers to both functional modelling and prototyping.
- 4 Competing and contestable factors arise from such things as differing moral, ethical, cultural and/or political views, and the way in which people adhere to and understand issues such as sustainability, globalization, democracy, and climate change.
- 5 Implementation of technological outcomes refers to the placement of the technological outcomes in situ. Technological outcomes are either one-off solutions or the result of a manufacturing process.
- 6 Assessment Specifications for this achievement standard can be accessed through the Technology Resources page found at <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/ncea-subject-resources/>.
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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