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 2019	**Date version published**	17 November 2016

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

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of how technological modelling supports technological development and implementation.	• Demonstrate in-depth understanding of how technological modelling supports technological development and implementation.	• Demonstrate comprehensive understanding of how technological modelling supports technological development and implementation.

Explanatory Notes

1   This achievement standard is derived from Level 8 of 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/Curriculum-support/Safety-and-Technology-Education, 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* achievement objectives to which this standard relates, see the Papa Whakaako for the relevant learning area.

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/subjects/.

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