Achievement Standard

Subject Reference   Generic Technology 2.10

Title   Demonstrate understanding of sustainability in design

Level   2   **Credits**   4   **Assessment**   External

Subfield   Technology

Domain   Generic Technology

Status   Registered   **Status date**   17 November 2011

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This achievement standard requires demonstrating understanding of sustainability in design.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of sustainability in design.	• Demonstrate in-depth understanding of sustainability in design.	• Demonstrate comprehensive understanding of sustainability in design.

Explanatory Notes

1   This achievement standard is derived from the Level 7 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.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools,* Learning Media, Ministry of Education, 1998; and the Health and Safety in Employment Act 1992.

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

2   *Demonstrate understanding of sustainability in design* involves*:*
   • explaining how lifecycle considerations determine the focus for design interventions
   • explaining the relationship between lifecycle design, innovation and sustainability.

Demonstrate in-depth understanding of sustainability in design involves*:*
- explaining how lifecycle analysis is undertaken and how this determines the focus for design intervention
- explaining how issues identified by lifecycle analysis led to design innovation being applied in the development of a sustainable technological outcome.

Demonstrate comprehensive understanding of sustainability in design involves*:*
- discussing the competing priorities and compromises made as a result of lifecycle analysis in the development of a sustainable technological outcome.

3   *Sustainability* refers to the responsible management of resources to support the capacity to endure within environmental, social, and economic dimensions.

4   Innovations may include but are not limited to: novel use of an existing technology, technique or process and/or an original idea that shifts thinking and understanding, and/or results in an innovative outcome. Innovation often allows issues identified from lifecycle analysis to be addressed.

5   Lifecycle considerations when designing a technological outcome may include but are not limited to: material selection, energy consumption, waste, and social and environmental factors.

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/.

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