

Achievement Standard

Subject Reference Generic Technology 1.3

Title Use design ideas to produce a conceptual design for an outcome to address a brief

Level 1 **Credits** 6 **Assessment** Internal

Subfield Technology

Domain Generic Technology

Status Registered **Status date** 20 January 2011

Planned review date 31 December 2016 **Date version published** 12 December 2013

This achievement standard involves generating and testing design ideas to produce a conceptual design for an outcome to address a brief.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Use design ideas to produce a conceptual design for an outcome to address a brief. 	<ul style="list-style-type: none"> Use informed design ideas to produce a conceptual design for an outcome to address a brief. 	<ul style="list-style-type: none"> Use refined design ideas to produce a conceptual design for an outcome to address a brief.

Explanatory Notes

- This achievement standard is derived from Level 6 of the Technology learning area in *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the material in the current version of 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 in Employment Act 1992.

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](#).

2 *Use design ideas to produce a conceptual design for an outcome to address a brief involves:*

- generating design ideas
- testing design ideas through functional modelling
- using stakeholder feedback to inform decision making
- using findings from functional modelling to select design ideas
- producing a conceptual design for an outcome
- determining the outcome's potential fitness for purpose.

Use informed design ideas to produce a conceptual design for an outcome to address a brief involves:

- creating design ideas informed by research and analysis of existing outcomes
- evaluating findings from functional modelling and stakeholder feedback to justify the selected design ideas.

Use refined design ideas to produce a conceptual design for an outcome to address a brief involves:

- testing, refining and evaluating design ideas through functional modelling and ongoing research
- justifying the potential fitness for purpose of the outcome.

3 The brief may be provided by the teacher or developed by the student. If the student develops the brief then the teacher must ensure that it provides sufficient guidance to enable a conceptual design to be produced. The brief used for this standard must allow for a range of outcomes and include the purpose and probable attributes of the outcome.

4 A *conceptual design* clearly communicates a proposed technological outcome that has the potential to address the brief. It is a detailed description of how the outcome would look and function. Conceptual designs can be presented using a variety of techniques which may include but are not limited to – freehand sketches; diagrams; technical drawings; scale models; computer simulations; written descriptions; details of materials, components and/or assembly instructions.

5 Potential fitness for purpose refers to the likelihood of the outcome to address the brief.

6 Functional modelling is used to explore and evaluate developing design ideas. It is undertaken to gather evidence on all aspects of the outcome including its likely technical feasibility and social acceptability.

7 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-aligned-standards/Technology/Level-1-Technology>.

Replacement Information

This achievement standard replaced unit standard 7485, unit standard 7487, and unit standard 13400.

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