

## Achievement Standard

<b>Subject Reference</b>	Generic Technology 3.4		
<b>Title</b>	Develop a prototype considering fitness for purpose in the broadest sense		
<b>Level</b>	3	<b>Credits</b>	6
		<b>Assessment</b>	Internal
<b>Subfield</b>	Technology		
<b>Domain</b>	Generic Technology		
<b>Status</b>	Registered	<b>Status date</b>	4 December 2012
<b>Planned review date</b>	31 December 2020	<b>Date version published</b>	17 November 2016

This achievement standard involves developing a prototype considering fitness for purpose in the broadest sense.

### Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> <li>Develop a prototype considering fitness for purpose in the broadest sense.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a refined prototype considering fitness for purpose in the broadest sense.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a justified prototype considering fitness for purpose in the broadest sense.</li> </ul>

### Explanatory Notes

- 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 *Develop a prototype considering fitness for purpose in the broadest sense* involves:
- considering the context when determining the suitability of materials and/or components, and of practical techniques and processes
  - selecting suitable materials and/or components; tools and equipment; and applying techniques and processes to make the prototype
  - using results from testing and stakeholder feedback to inform the making and trialling of the prototype
  - prototyping to gain specific evidence of fitness for purpose
  - explaining any decisions to accept and/or modify the prototype based on a judgement against the brief.

*Develop a refined prototype considering fitness for purpose in the broadest sense* involves:

- evaluating the way the combination of selected materials and/or components and practical techniques and processes work together to ensure their effectiveness in making a prototype.

*Develop a justified prototype considering fitness for purpose in the broadest sense* involves:

- synthesising evidence from ongoing testing (included prototyping) and stakeholder feedback to optimise the prototype and justify the prototype's fitness for purpose against the brief.

- 3 Context refers to the wider social and physical environment in which technological development occurs.
- 4 The brief used for this standard must allow judgement of an outcome's fitness for purpose in the broadest sense. *Fitness for purpose in the broadest sense* relates to the prototype, as well as the practices used to develop it. Judgements about fitness for purpose may include:
- considerations of the outcome's technical and social acceptability
  - sustainability of resources used
  - ethical nature of testing practices
  - cultural appropriateness of trialling procedures
  - determination of life cycle, maintenance, ultimate disposal
  - health and safety.
- The brief may be provided by the teacher or developed by the student.

- 5 A *prototype* is a completed outcome that is yet to be fully implemented. It is developed through technological practice and is reflective of relevant codes of practice. Prototyping is the trialling of the prototype to gain evidence for the evaluation of the outcome's fitness for purpose in its intended physical and social environment (context).

- 6 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-aligned-standards/Technology/Level-3-Technology>.

**Replacement Information**

This achievement standard, AS91608, AS91609, and AS91610 replaced AS90620 and unit standard 13391.

This achievement standard replaced unit standard 13405 and unit standard 13408.

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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