

Achievement Standard

Subject Reference	Generic Technology 1.6		
Title	Demonstrate understanding of how materials enable technological products to function		
Level	1	Credits	4
		Assessment	External
Subfield	Technology		
Domain	Generic Technology		
Status	Registered	Status date	20 January 2011
Planned review date	31 December 2019	Date version published	17 November 2016

This achievement standard involves demonstrating understanding of how materials enable technological products to function.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Demonstrate understanding of how materials enable technological products to function. 	<ul style="list-style-type: none"> Demonstrate in-depth understanding of how materials enable technological products to function. 	<ul style="list-style-type: none"> Demonstrate comprehensive understanding of how materials enable technological products to function.

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 *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 materials enable technological products to function* involves:
- describing the composition, structure and performance properties of materials used in a technological product
 - describing the impact of the composition and structure of materials on how materials can be manipulated (eg mixed, shaped, joined, combined, separated, finished)
 - explaining how the materials used and the way they have been manipulated allow technological products to function as intended.

Demonstrate in-depth understanding of how materials enable technological products to function involves:

- explaining how the composition and structure of materials determine the performance properties the materials exhibit
- explaining how the composition and structure of materials determine the ways materials can be manipulated.

Demonstrate comprehensive understanding of how materials enable technological products to function involves:

- discussing how the interaction between the composition, structure and manipulation of materials enables technological products to function as intended.

- 3 *Materials* refer to any substance, raw or processed, used in the creation of a technological product. All materials have inherent qualities that combine to provide the material with performance properties.
- 4 Performance properties include but are not limited to – warmth, strength, taste, flexibility, crease resistance, malleability, drape, form, durability, absorbency, colour, texture, appearance, sheen, style. Performance properties can be altered through working the materials (eg shaped, joined, combined, heated, finished) so that the material can improve the function of a technological product.
- 5 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/>.

Replacement Information

This achievement standard and AS91048 replaced AS90050.

This achievement standard, AS91045, AS91047, and AS91048 replaced unit standard 13389.

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