

Achievement Standard

Subject Reference	Generic Technology 3.6		
Title	Demonstrate understanding of material development		
Level	3	Credits	4
		Assessment	External
Subfield	Technology		
Domain	Generic Technology		
Status	Registered	Status date	4 December 2012
Planned review date	31 December 2020	Date version published	17 November 2016

This achievement standard involves demonstrating understanding of material development.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Demonstrate understanding of material development. 	<ul style="list-style-type: none"> Demonstrate in-depth understanding of material development. 	<ul style="list-style-type: none"> Demonstrate comprehensive understanding of material development.

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.

- Demonstrate understanding of material development* involves:
 - describing the development of a material designed to enhance a product's performance

- describing the implications of the material on the design, development, implementation, maintenance, and disposal of products.

Demonstrate in-depth understanding of material development involves:

- explaining how the material enhanced the performance of a product
- explaining how the material impacts on the design, development, implementation, maintenance, and disposal of products.

Demonstrate comprehensive understanding of material development involves:

- explaining the concepts and processes employed in the development of a material.

- 3 Enhancing performance may include: fire proofing, increasing speed, enhancing health, impact protection, increasing durability, easy care, load bearing abilities, ease of disposal, conductivity.
 - 4 *Material development* can occur through processes such as manipulation and/or transformation of existing materials, or the formulation of new materials.
 - 5 Products may include existing or feasible future products.
 - 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/>.
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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