

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 2014	Date version published	20 January 2011

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 (Technological Knowledge strand) 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, and in the *Technology Curriculum Support*, October 2010 that can be found at <http://www.techlink.org.nz/curriculum-support/pdfs/technology-curriculum-support-Oct-10.pdf>.

Further information about technological products can be found at <http://www.techlink.org.nz/curriculum-support/papers/knowledge/tech-products/index.htm> and <http://www.techlink.org.nz/curriculum-support/indicators/index.htm>.

- 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/ncea/resources>.

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 be accredited by NZQA before they can register credits from assessment against achievement standards.
- 2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference

0233