

Achievement Standard

Subject Reference	Processing Technologies 2.60		
Title	Implement advanced procedures to process a specified product		
Level	2	Credits	4
		Assessment	Internal
Subfield	Technology		
Domain	Processing Technologies		
Status	Registered	Status date	17 November 2011
Planned review date	31 December 2016	Date version published	12 December 2013

This achievement standard requires implementing advanced procedures to process a specified product.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Implement advanced procedures to process a specified product. 	<ul style="list-style-type: none"> Skilfully implement advanced procedures to process a specified product. 	<ul style="list-style-type: none"> Efficiently implement advanced procedures to process a specified product.

Explanatory Notes

- 1 This achievement standard is derived from Level 7 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 in Employment Act 1992.

- 2 *Implement advanced procedures to process a specified product* involves:
- creating and implementing a flow diagram, including processing operations and tests, with appropriate sequencing
 - undertaking processing operations and tests that comply with health and safety documentation.

Skilfully implement advanced procedures to process a specified product involves:

- showing independence and accuracy when executing advanced procedures.

Efficiently implement advanced procedures to process a specified product involves:

- undertaking advanced procedures in a manner that economises time, effort and materials.

- 3 *To process* refers to the combining and/or manipulating of materials to make a product.
- 4 Materials may include but are not limited to: food ingredients, plant extracts, micro-organisms, concrete, fibreglass, woodchips, recycled materials, and resins.
- 5 *Specified product* refers to a product and its relevant specifications, including material specifications. The specifications must be of sufficient rigour to allow the student to meet the standard. The specifications need to be agreed prior to the product being made. They may be teacher-given or developed in negotiation with the student.
- 6 Products may include but are not limited to: fermented or non-fermented foods and beverages, biologically active products, household chemicals, toiletries, cosmetics, paper, and resin or fibreglass products.
- 7 *Advanced procedures* are those that require the student to perform a self-determined sequence of processing operations and tests to make a successful product. The specifications of the product, the materials to be processed, and the processing operations and tests to be undertaken will be provided to the student. The sequencing will not be provided.
- 8 Health and safety documentation may include but is not limited to: Hazard Analysis and Critical Control Point (HACCP), Hazardous Substances and New Organisms Act 1996 (HSNO), Physical Containment Level 1 (PC1) for working with micro-organisms.
- 9 Processing operations for this achievement standard include but are not limited to:
 - one or more of: mixing/extracting/separating/growing eg emulsifying, enrobing, dehydrating, filtering, crystallising, chemical peeling, centrifuging, gravity settling, solvent extraction, plant tissue culturing
 - one or more of: heating/cooling/reacting eg melting, coagulating, gelling, gelatinising, denaturing, evaporating, fermenting, controlling non-enzymatic browning.
- 10 Tests may include but are not limited to testing for: viscosity, sensory attributes, brix, moisture content, nutritional content using tables, presence (or absence) of microbial activity, degree of fermentation, and colour stability.
- 11 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-aligned-standards/Technology/Level-2-Technology>.

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