

Achievement Standard

Subject Reference	Construction and Mechanical Technologies 3.23		
Title	Implement complex procedures to create an applied design for a specified product		
Level	3	Credits	4
		Assessment	Internal
Subfield	Technology		
Domain	Construction and Mechanical Technologies		
Status	Registered	Status date	4 December 2012
Planned review date	31 December 2019	Date version published	17 November 2016

This achievement standard involves implementing complex procedures to create an applied design for a specified product.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Implement complex procedures to create an applied design for a specified product. 	<ul style="list-style-type: none"> Skilfully implement complex procedures to create an applied design for a specified product. 	<ul style="list-style-type: none"> Efficiently implement complex procedures to create an applied design for a specified product.

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 *Implement complex procedures to create an applied design for a specified product* involves:
- interpreting a complex design to determine an applied design medium suited to the product
 - trialling to determine the equipment, materials and complex techniques required to create the design
 - undertaking appropriate tests to demonstrate the applied design enhances the product as specified
 - applying complex techniques that comply with relevant health and safety regulations.

Skilfully implement complex procedures to create an applied design for a specified product involves:

- showing independence and accuracy when undertaking the procedures.

Efficiently implement complex procedures to create an applied design for a specified product involves:

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

- 3 *Applied design* mediums may include: beads, fabric, fibre, yarn, dyes, paint, leather, wood, metals, and resin.

- 4 Equipment may include: printers; embroidery, knitting, smocking and quilting machines; needle punch tools; brushes, screens, casting moulds, spray guns, airbrushes, chisels, and CNC machines.

- 5 Complex techniques may include:

- screen printing eg large image, multiple printing colours, close tolerance, special inks
- embroidery eg large image, or small image requiring definition, multiple threads, use of metallic threads, special registration requirements, difficult placement on product
- appliqué eg large image, tight curves in design, multiple inner points, difficult fabrics, metallic threads
- beading
- smocking
- carving
- inlaying
- cut work including laser cutting.

- 6 *A specified product* refers to a product with specifications that require an application of a complex design for the purpose of aesthetic enhancement. 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.

- 7 The complexity of the design may result from: the intricate nature of the design itself, the position it is placed on the product, the characteristics of the material the product is made from and/or the applied design medium. For example a branch with multiple

leaf shapes and/or fine lines, applied design on a knit fabric. Examples of products include a garment, a quilt, furniture, and signage.

- 8 Tests may include: visual checks of alignment, colour accuracy, tension, invisibility of stitching, symmetry, and accuracy of shapes and/or outlines.
 - 9 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>.
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Replacement Information

This achievement standard and AS91621 replaced AS90687.

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