

Achievement Standard

Subject Reference	Design and Visual Communication 1.31		
Title	Produce instrumental, multi-view orthographic drawings that communicate technical features of design ideas		
Level	1	Credits	3
		Assessment	External
Subfield	Technology		
Domain	Design and Visual Communication		
Status	Registered	Status date	17 November 2011
Planned review date	31 December 2020	Date version published	17 November 2016

This achievement standard involves the production of instrumental, multi-view orthographic drawings that communicate technical features of design ideas.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Produce instrumental, multi-view orthographic drawings that communicate technical features of design ideas. 	<ul style="list-style-type: none"> Produce instrumental, multi-view orthographic drawings that clearly communicate technical features of design ideas. 	<ul style="list-style-type: none"> Produce instrumental, multi-view orthographic drawings that effectively communicate technical features of design ideas.

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 *Produce instrumental, multi-view orthographic drawings that communicate technical features of design ideas* involves:

- using instrumental drawing techniques and conventions to produce 2D drawings that describe the technical features of a design. Describing technical features includes but is not limited to showing visible surface features, dimensions, and materials.

Produce instrumental, multi-view orthographic drawings that clearly communicate technical features of design ideas involves:

- producing 2D drawings that detail the technical features of a design. Detailing technical features typically includes but is not limited to communicating technical features not visible in the main outline or those associated with communicating complex shape and/or form.

Produce instrumental, multi-view orthographic drawings that effectively communicate technical features of design ideas involves:

- producing accurately measured and precisely executed 2D drawings that show in-depth information about technical features of a design. In-depth information typically includes but is not limited to sectional views that explain technical features.

3 *Multi-view orthographic drawings* refer to instrumental drawings that contain two or more projected views. Where possible these views should be organised in third-angle orthographic projection.

Multi-view orthographic drawings should comply with standards convention NZS/AS 1100.101:1992, *Technical Drawing – General Principles*.

4 *Instrumental, multi-view orthographic drawings* include the use of key line types (eg construction lines and outlines), projection, and appropriate drawing and text layout. Examples of instrumental, multi-view orthographic drawing conventions include, as appropriate, those associated with orthographic drawing planes and reference lines, labelling, scale, dimensioning, sectioning, geometric construction and surface development.

Instrumental drawings can be constructed using either traditional drawing equipment or computer applications.

5 *Design ideas* are student-generated responses to a design brief.

6 *Technical features* refer to information related to the dimensions, component shapes, and construction methods necessary to produce the design.

7 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 replaced unit standard 7502.

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