

Achievement Standard

Subject Reference	Construction and Mechanical Technologies 3.20				
Title	Implement complex procedures to integrate parts using resistant materials to make a specified product				
Level	3	Credits	6	Assessment	Internal
Subfield	Technology				
Domain	Construction and Mechanical Technologies				
Status	Registered	Status date	4 December 2012		
Planned review date	31 December 2020	Date version published	28 November 2019		

This achievement standard requires implementing complex procedures to integrate parts using resistant materials to make a specified product.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Implement complex procedures to integrate parts using resistant materials to make a specified product. 	<ul style="list-style-type: none"> Skilfully implement complex procedures to integrate parts using resistant materials to make a specified product. 	<ul style="list-style-type: none"> Efficiently implement complex procedures to integrate parts using resistant materials to make 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 integrate parts using resistant materials to make a specified product* involves:
- trialling and using feedback to inform the selection of complex procedures to make the product
 - scheduling techniques and tests for precise preparation and integration of parts
 - preparation of parts for integration
 - preparation of the integration environment
 - integrating parts to ensure product meets specifications
 - ongoing testing against reference points to reduce error in the integration of parts
 - undertaking preparation, integration and testing to comply with relevant health and safety regulations.
- Skilfully implement complex procedures to integrate parts using resistant materials to make a specified product* involves:
- showing independence and accuracy in undertaking procedures.
- Efficiently implement complex procedures to integrate parts using resistant materials to make a specified product* involves:
- undertaking procedures in a manner that economises time, effort and materials.
- 3 *Complex procedures* require the student to undertake informed selection and scheduling of techniques and testing to make a product that incorporates two or more assembled parts that require accuracy and precision.
- 4 *Resistant materials* in this standard may include but are not limited to: wood, composites, metal, alloys, ceramics, and plastics.
- 5 *Specified product* refers to a product with specifications that require the integration of parts to enable the product to function as intended. 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 Integration environment refers to the workspaces involved and may include tools, equipment, and assembly aids.
- 7 Reference points may include but are not limited to: datum lines, centres, centrelines, prepared edges, and surfaces.
- 8 *Scheduling* refers to such things as planning construction orders or a production sequence.
- 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 replaced unit standard 7531.

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