

## Achievement Standard

<b>Subject Reference</b>	Mathematics and Statistics 2.10		
<b>Title</b>	Conduct an experiment to investigate a situation using statistical methods		
<b>Level</b>	2	<b>Credits</b>	3
		<b>Assessment</b>	Internal
<b>Subfield</b>	Statistics and Probability		
<b>Domain</b>	Statistics		
<b>Status</b>	Registered	<b>Status date</b>	17 November 2011
<b>Planned review date</b>	31 December 2014	<b>Date version published</b>	17 November 2011

This achievement standard involves conducting an experiment to investigate a situation using statistical methods.

### Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> <li>Conduct an experiment to investigate a situation using statistical methods.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct an experiment to investigate a situation using statistical methods, with justification.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct an experiment to investigate a situation using statistical methods, with statistical insight.</li> </ul>

### Explanatory Notes

- This achievement standard is derived from Level 7 of *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the achievement objective
  - carry out investigations of phenomena, using the statistical enquiry cycle:
    - conducting experiments
    - evaluating the choice of measures for variables and data collection methods used
    - using relevant contextual knowledge, exploratory data analysis, and statistical inference
 in the Statistics strand of the Mathematics and Statistics Learning Area. It is also related to the material in the *Teaching and Learning Guide for Mathematics and Statistics*, Ministry of Education, 2010 at <http://seniorsecondary.tki.org.nz>.
- Conduct an experiment to investigate a situation using statistical methods* involves showing evidence of using each component of the investigation process.

*Conduct an experiment to investigate a situation using statistical methods, with justification* involves linking components of the process of investigating a situation by experiment to the context, explaining relevant considerations in the investigation process, and supporting findings with statements which refer to evidence gained from the experiment.

*Conduct an experiment to investigate a situation using statistical methods, with statistical insight* involves integrating statistical and contextual knowledge throughout the investigation process which may involve reflecting on the process, or considering other relevant variables.

- 3 The process of investigating a situation by experiment involves:
- posing an investigative question about a given experimental situation
  - planning the experiment by
    - determining appropriate variables and measures
    - determining data collection and recording methods
  - conducting the experiment and collecting data
  - selecting appropriate displays and measures
  - discussing displays and measures
  - communicating findings in a conclusion.
- 4 Conditions of Assessment related to this achievement standard can be found at [www.tki.org.nz/e/community/ncea/conditions-assessment.php](http://www.tki.org.nz/e/community/ncea/conditions-assessment.php).
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### **Replacement Information**

This achievement standard replaced unit standard 7564.

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### **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