

Title	Use measurement to solve problems		
Level	1	Credits	3

Purpose	This is a unit standard to assess aspects of numeracy. People credited with this unit standard are able to use measurement to solve problems. They will be able to undertake measurements such as length and capacity, calculate area and volume, and interpret location and direction, using their knowledge of the metric system, conversions, and estimation.
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Classification	Core Generic > Work and Study Skills
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Available grade	Achieved
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Explanatory notes

- 1 For the purposes of this unit standard, *numeracy* is defined as: the bridge between mathematics and daily life. It includes the knowledge and skills needed to apply mathematics to everyday family and financial matters, learning, work and community tasks, social and leisure activities.

Numeracy standards are not the same as mathematics standards.

This unit standard is one of three unit standards for numeracy. The other two are:

- Unit 26623, *Use number to solve problems*
- Unit 26626, *Interpret statistical information for a purpose*.

- 2 This unit standard must be assessed on the basis of naturally occurring evidence from real contexts. Therefore assessment for this unit standard must not be one-off assessment events designed specifically for this purpose.

Naturally occurring evidence must be derived from activities within a learning programme and/or from a candidate's actual work performance and/or everyday life. It is important the candidate is made aware that evidence of competence may be gathered while undertaking their study or work and that this does not create undue stress for them. The assessor must be satisfied that the naturally occurring evidence can be attributed to the candidate. Naturally occurring evidence may take the form of a portfolio where the evidence has been verified. A verifier's checklist is acceptable if accompanied by evidence that includes examples from the candidate's performance.

Real contexts are part of the candidate's everyday life and may include their classroom, their workplace, and other contexts.

Evidence gathered from:

- a candidate's classroom may be sourced from different subjects or courses, or from different topics or aspects of the same course
- a candidate's workplace may be sourced from an employment focus (i.e. relating to employment documentation and conditions) or from a job-performance focus (i.e. regular work tasks)
- other contexts may be sourced from a candidate's involvement with family, sport, leisure, or community.

- 3 The assessor must be satisfied that the candidate has demonstrated an ongoing transferable competency against the unit standard as a whole, over a period of at least one month.
- 4 Problems must:
- be in a real context for the candidate (refer definition above)
 - involve a one-step solution (A one-step solution is one in which the solution is reached after a single calculation. Where more than one calculation is required to solve a problem, each will be counted as a one-step solution.)
 - require skills at or above koru/step 5 of the *Measurement and Location* progressions within the *Measure and Interpret Shape and Space* strand of the *Learning Progressions for Adult Numeracy*, available at <http://www.literacyandnumeracyforadults.com/>.
- 5 Calculators, computers or other appropriate technology are permitted for assessment for this unit standard. The candidate should take their own measurements, using the measurement tool/device they have selected. When a solution is reached, the candidate must ascertain whether it is reasonable in relation to the problem.
- 6 Competence can be demonstrated orally, visually or in a written form.
- 7 Definitions
- A problem* is a real world question that can be solved using numeracy skills, where the pathway to the solution is not given.
- Effective methods* means that the methods used to solve problems result in a reasonable solution within a reasonable time-frame.

Outcomes and evidence requirements

Outcome 1

Use measurement to solve problems.

Range across at least three separate activities; problems include at least four of – length, capacity, mass, angle, temperature, time; and overall must include – evidence of four measurements; evidence of four calculations, derived from the measurements; and one piece of evidence for each of – conversions within the metric system, estimation, location defined in terms of directions and distances.

Evidence requirements

- 1.1 Measurement tools/devices and units of measurement used are appropriate to the problems and meet the required level of accuracy.
- 1.2 Effective methods are selected and used to solve problems.

Planned review date	31 December 2017
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	20 August 2010	31 December 2014
Revision	2	15 January 2014	N/A
Rollover	3	21 May 2015	N/A

Consent and Moderation Requirements (CMR) reference	0023
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact NZQA National Qualifications Services nqs@nzqa.govt.nz if you wish to suggest changes to the content of this unit standard.