

Title	Develop a plan to address the needs of adult learners in measurement practice		
Level	6	Credits	8

Purpose	<p>This unit standard is for people with growing expertise in adult numeracy education, whose prime purpose is to improve the numeracy of learners in a range of settings: training, educational, community or workplace.</p> <p>People credited with this unit standard are able to: describe adult estimation and measurement practices in a specified context; identify errors with rates, scales and unit conversions; and describe the use of proportional reasoning strategies within each of these, in a specified context; describe areas of difficulty adult learners face with measurement rules and formulae in a specified context; describe three learning activities which address areas of difficulty in measurement practice; and prepare a plan to address the measurement needs of adult learners in a specified context.</p>
----------------	---

Classification	Adult Education and Training > Adult Literacy and Numeracy Education
-----------------------	--

Available grade	Achieved
------------------------	----------

Entry information	
Recommended skills and knowledge	Unit 21199, <i>Demonstrate knowledge of adult numeracy learning and introductory numeracy knowledge</i> , or demonstrate equivalent knowledge and skills.

Explanatory notes

- 1 For the purposes of this unit standard, the domain Adult Literacy and Numeracy Education includes design, delivery, assessment, and evaluation.
- 2 *Learning Progressions for Adult Literacy* (Tertiary Education Commission, 2008), *Learning Progressions for Adult Numeracy* (Tertiary Education Commission, 2008), and supporting professional development resources should be referred to within the context of this unit standard.
- 3 For the purposes of evidence requirement 3.3 the learning activities do not have to be activities developed by the candidate.

4 Definitions

Proportional reasoning refers to adult learners' ability to recognise when a measurement context contains any combination of fractions, decimals, percentages, quotients, rates, or ratios. There is an understanding that multiplicative processes provide the bases for proportional (relative) numbers which go beyond additive or counting (absolute) processes.

Learning activities refer to opportunities between educators and learners, or learners and learners, to apply teaching methods and use resources which promote new or enhanced understanding of concepts.

Unit conversions refer to feet or yards to metres, pounds to kilograms, centimetres to inches, pints or gallons to litres, Celsius to Fahrenheit, litres to cubic centimetres, square metres to square centimetres, and the reverse conversion to all of these.

- 5 The context used to achieve this unit standard may include but is not limited to – subject area, skill area, job requirements, everyday situations.

Outcomes and evidence requirements

Outcome 1

Describe adult estimation and measurement practices in a specified context.

Evidence requirements

- 1.1 Methods used by adults to estimate measurements are described in terms of their use in the specified context.
- Range measures include but are not limited to – length and perimeter, capacity and volume, location, mass and weight, time, temperature;
evidence of five different measures.
- 1.2 Methods used by adults for taking measurements are described in terms of their use in the specified context.
- Range methods may include but are not limited to – selection and use of measuring tools appropriate to the context, requirements of the precision of measurements taken, use of units of measurement for the chosen contexts;
evidence of three measurements, one of which is – length, capacity and volume, location, mass and weight, time, or temperature.

Outcome 2

Identify errors with rates, scales and unit conversions; and describe the use of proportional reasoning strategies within each of these, in a specified context.

Evidence requirements

- 2.1 Misconceptions and partial understandings involving rates and scales are identified in terms of taking measurements and working with rates.
- Range evidence of four misconceptions and/or partial understandings.
- 2.2 Errors with unit conversions are identified in adult measurement practice.
- Range unit conversions include – conversions within the metric system, and conversion between the metric and imperial systems; evidence of two conversions.
- 2.3 Proportional reasoning strategies are described in relation to misconceptions, partial understandings, and errors of rates, scales, and unit conversions.
- Range evidence of one strategy for each of – scales, rates, unit conversions.

Outcome 3

Describe areas of difficulty adult learners face with measurement rules and formulae in a specified context.

Evidence requirements

- 3.1 Areas of difficulty are identified and the source(s) of error are described in relation to applying measurement rules and formulae.
- Range evidence of three areas of difficulty, and their source(s) of error.
- 3.2 Areas of difficulty for the adult learner when using measurement to solve problems are described in relation to the specified context.
- Range areas of difficulties may include but are not limited to – measurement and the associated issues around the use of technology, an aspect of measurement eg trigonometry, difficulties with spatial connections; evidence of three areas of difficulties.

Outcome 4

Describe three learning activities which address areas of difficulty in measurement practice.

Range areas of difficulty identified in outcome 3.

Evidence requirements

- 4.1 Three learning activities are described in terms of how they promote better understanding of the areas of difficulties identified.

Outcome 5

Prepare a plan to address the measurement needs of adult learners in a specified context.

Evidence requirements

- 5.1 Outcomes of the plan include the measurement requirements of adult learners in the specified context.
- 5.2 Plan achieves the outcomes in terms of addressing the measurement requirements of adult learners in the specified context.
- 5.3 Plan is critically evaluated in relation to addressing the measurement requirements of adult learners in the specified context.

Range evaluation includes – self review, feedback from two sources – supervisor, peer, and/or learner.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 April 2011	31 December 2018
Rollover and Revision	2	20 June 2013	31 December 2018
Review	3	15 September 2016	31 December 2018

Consent and Moderation Requirements (CMR) reference

0045

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 (CMRs). 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.

This unit standard is expiring