

NUMERACY

Level Eight Learning to apply mathematical operations and skip counting, and work with large numbers and place value	The student is learning to apply mathematical operations such as addition, subtraction and division, and to solve and explain number patterns and describe outcomes using numeracy vocabulary such as 'half the group' or 'a quarter of a cup'. S/he may use skip counting in everyday activities and explain its purpose. The student is beginning to create and/or explain patterns comprising different objects and may predict the probability of an outcome in a familiar situation. S/he is learning to work with large numbers, and may demonstrate understanding of place value by explaining the value of each numeral in four digit numbers. The student is learning to work with measuring tapes or rulers to accurately measure length and explain findings.
Level Seven Learning to apply understanding of number to measure, order and compare	The student is beginning to demonstrate an understanding of how number can be applied to concepts such as ordering and comparing events and objects. Understanding may be demonstrated by placing Australian money in relative order or by explaining a sequence of events using ordinal number. The student is learning the vocabulary of time and may refer to length of activities using measures such as minutes, hours and days. S/he is developing the vocabulary to describe comparisons between various sized objects and make meaning from unfamiliar representations of multiple pieces of information, such as a timetable. In working with number, the student is beginning to demonstrate strategies (other than recount) to find the total when working with changes of quantity and is developing the skills to accurately record three digit numbers
Level Six Learning to represent numbers to 100 and apply understanding of categories and patterns	The student is learning to represent numbers to 100, which may be demonstrated by placing written or printed two-digit numbers in ascending order or by skip counting objects in twos, fives and tens. S/he may demonstrate an understanding of number conservation by explaining the total number of objects does not change when their position is rearranged. The student is developing the vocabulary to communicate the placement of an object using terms such as left, right, top and bottom and the names of familiar 2D shapes seen in the environment. S/he is learning about groupings and may demonstrate this by applying rules (e.g., same shape or color) to organize objects into various categories and explain the basis for classification. The student is learning about measurement and this may be demonstrated by the use of informal measures to compare length. S/he is beginning to identify Australian notes and coins by their value name.
Level Five Learning to count up to 20 and back and building a vocabulary to describe simple numeracy concepts	The student is learning to count forwards and backwards from 0 to 20. S/he is beginning to recognize patterns; developing an ability to extend an alternating pattern and identify the missing element in a simple number sequence. In working with quantity, the student is learning to split a collection of objects into subgroups when asked or following a demonstration and may describe a change in quantity (e.g., say that the group is smaller or bigger). The student is starting to use familiar vocabulary to describe numerical concepts such as chance and order. For example, the student may indicate that an event might or might not occur or that the events were ordered first, second and third. S/he is developing an understanding of the relative duration of events and may demonstrate this by communicating that one event took longer than another.
Level Four Learning to use number words to count and identify difference in magnitude	The student is learning to consistently attach number words to objects to find the total of a group. S/he is learning to order numerals from 0-10 and to indicate the total of a collection of 1-3 objects without counting (subitizing). In working with quantity, the student is learning to apply counting to check the total of a small group of concrete materials if objects have been added or subtracted. The student is starting to communicate his or her understanding of magnitude by comparing and indicating the larger of two objects and may demonstrate early concepts of division by splitting an object into parts when asked or following a demonstration. S/he is developing an understanding of directional terms, displayed by following instructions given by another to locate an object.
Level Three Learning the vocabulary of number, shape and relationship	The student is becoming aware of the vocabulary of numeracy and beginning to respond to instructions such as being asked to take away or add an item to a group, to respond to the use of ordinal numbers and to name familiar 2D shapes. S/he is working with manipulatives and may sort tokens, coins or counters into like groups as well as indicate the longer of two objects when asked. In working with number, the student is beginning to connect number words with up to three objects and will check the quantity of objects in a group if they are rearranged.
Level Two Learning to respond to numeracy activities with support	The student is learning to respond to activities such as objects being added or taken away from a group. In working with quantity, the student may attend to an object or group of objects being divided into portions or groups and may react to the representation of three objects. The student is beginning to rely on support to explore different sized objects and accept guidance to place numerals 1-5 in order. In working with manipulatives, the student is starting to match two like objects from a group of three and sort objects into groups based on an attribute such as color or size.
Level One Learning to engage with the environment	The student is beginning to react to changes within the familiar environment, and events such as other people counting or the movement of an object. S/he may react to representations of familiar activities or objects or shapes presented by another person.

Accessible from the Assessment Research Centre's Students with Additional Needs (SWANs) assessment and reporting program, and adapted Strickland, J., Woods, K., and Pavlovic, M. (2016). *Assessing and understanding early numeracy for students with additional learning needs*. Proceedings of the Annual Conference of the Australian Association for Research in Education, Melbourne.