

Learning and communication - numeracy

Early Years Assessment and Learning Tool Fact Sheet

- ✓ This fact sheet supports educators' understanding of the Early Years Assessment and Learning Tool (the Tool). It highlights assessment as an everyday practice using a case study. It builds on the ideas explored in the [Assessment and the planning cycle practice videos](#).
- ✓ The Tool helps teachers and educators track and understand children's learning and development in a dynamic and consistent way.
- ✓ It supports educators working with the [Early Years Planning Cycle](#) and their assessment of children's learning. The Tool guides observations of play-based learning and generates Learning Reports from educator observation.
- ✓ Analysis of the information educators collect (e.g., via observations) informs their teaching practice (Plan, Act, Reflect). Over time, educators observe, document, and assess each child's progress against the five [Victorian Early Years Learning and Development Framework \(VEYLDF\) Learning Outcomes](#).
- ✓ The 8 Tool modules align with the VEYLDF Learning and Development Outcomes *and* the Assessment for Learning and Development Practice Principle of the VEYLDF.
- ✓ The Tool's suggested teaching strategies have been designed to support children's learning trajectories and can be adapted to your service's resources and context.

Tool module: Learning and communication - numeracy and the VEYLDF

The Tool fosters strength-based assessment approaches. Through everyday observations in play-based learning environments, educators reflect on what a child can typically do. The Tool generates a Learning Report that allows educators to consider what a child is ready to learn next and offers targeted learning experiences to scaffold their learning (Plan/Act).

This module, *Learning and communication – numeracy*, aligns with VEYLDF Outcomes:

Outcome 4 - Children are confident and involved learners

- ✓ Children develop dispositions for learning such as curiosity, cooperation, confidence, creativity, commitment, enthusiasm, persistence, imagination and reflexivity.
- ✓ Children develop a range of skills and processes such as problem solving, inquiry, experimentation, hypothesising, researching and investigating.
- ✓ Children transfer and adapt what they have learnt from one context to another.
- ✓ Children resource their own learning through connecting with people, place, technologies and natural and processed materials.

Outcome 5 - Children are effective communicators

- ✓ Children interact verbally and non-verbally with others for a range of purposes.
- ✓ Children engage with a range of texts and get meaning from these texts.
- ✓ Children express ideas and make meaning using a range of media.
- ✓ Children begin to understand how symbols and pattern systems work.
- ✓ Children use information and communication technologies to access information, investigate ideas and represent their thinking.

For the *Learning and communication - numeracy* module, educators observe and reflect on a child's learning progression of skills needed to notice, describe, understand, and use numeracy information. For each module, educators respond to a series of questions which draw on their existing knowledge of the child. When completed, the Tool gives teachers and educators a Learning Report which provides them with a picture of the child's strengths and interests related to the particular module.

Case study

Malaki attends four-year-old kindergarten in outer Melbourne. He loves playing with blocks, grouping them, looking for patterns to fit them together, breaking them apart and building with them. On this occasion, Malaki is engaged in a small group activity in which he is challenged with ordering rocks and pinecones by size. He delights in his contribution, showing his educator the two small rocks that he has placed in the line.

Collect information

Based on multiple observations, collected over time and with added perspectives from his parents, other educators, and early years professionals, Malaki's educator completes the *Learning and communication - numeracy* module. They note that he can:

- attend to, through imagination and exploration, numeracy experiences
- sort and group objects
- use play to explore ideas of quantity and measurement.

Question / Analyse

For the Learning Report in this module, the 'nutshell' and Learning Outcome Statement provides a summary of Malaki's learning progression and describes how he can:

- explore object quantities
- respond to an object or group of objects being counted or 'measured'
- show awareness of 'like' groups.

The report suggests intentional teaching strategies to advance Malaki's next learning based on where he is currently at, such as:

- use the vocabulary of numeracy in everyday experiences (e.g., counting out objects or people, attaching number words to objects to find out the total of a small group, sharing objects equally between people or groups, talking about under or over or bigger or smaller or one, lots and more)
- use role plays to encourage the child to practise real world application of numeracy skills (e.g., role plays of shopping, cooking, measuring, sharing out objects, banking, being paid for work)
- use age-relevant and engaging puzzles, books, grids, flash cards, blocks, songs, games (e.g., dice games, boardgames, number bingo,



Early Years Planning Cycle (EYPC)

matching games) or posters to teach recognition and ordering of numerals (first 0 to 20, then 0 to 100).

His educator reflects on the information and suggested teaching and learning strategies the report provides. This report guides their consideration, together with colleagues, of the most appropriate resources and possible integrated teaching and learning experiences (see below) to advance Malaki's learning.



FIGURE 4: INTEGRATED TEACHING AND LEARNING APPROACHES

Plan

Following a review of the Tool's suggested teaching strategies, Malaki's educators add extensions to the educational program.

Malaki's educators plan for him to:

- practice sorting and matching objects
- experience basic measurement concepts related to length
- engage in imaginative role-play aligned to his interests and preferred resources – for example, building a block city with different sized buildings.

Act / Do

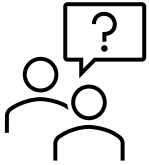
Educators use Malaki's love of building and blocks to engage him further and offer activities (indoors and outdoors) that encourage him to sort them into like groups, experiment with building towers with each of the different groups and compare their height/length. Resources include a range of blocks (small brightly coloured blocks, large wooden blocks in different shapes, magnetised blocks, and natural materials). Texts and images (pictures of local landmarks, hills, towers, buildings, plants, trees etc) provide an important connection to the kindergarten community. Malaki's educators will intentionally use keywords to explicitly model maths language related to size; long/longer/longest, short/shorter/shortest, big/bigger/biggest, high/higher/highest, low/lower/lowest, tall/taller/tallest.

Malaki's educators continue to implement intentional maths-based learning experiences with the kinder group. For example, educator-child sustained shared thinking (questioning, conversation, feedback) about how to measure 'length' in nature, for example, comparing the height/length of different trees.

Reflect / Review

The plan for Malaki guides reflection and review. Repeated ongoing observation in the day-to-day program guides this. His educator reflects on the resources and strategies (modelling, activities, teaching practices and environments) utilised and how Malaki responds to them. Educators reflect on how they plan to consolidate or extend his numeracy learning, and how they can continue to collaborate, and share progress with, Malaki's family.

Learning and communication – numeracy: reflective questions



- How is children's numeracy learning assessed in your service and how is the information interpreted?
- How are observations made and recorded in the day-to-day (routine, play, transitions, child collaboration)?
- Who contributes to the planning cycle in your setting? What is the role of children and their families in contributing to the planning cycle?
- What resources, intentional teaching practices (interactions/experiences) and environments might support consideration of the *Learning and communication - numeracy* module?

References

Early Childhood Numeracy and Mathematics Resource

<https://www.education.vic.gov.au/school/teachers/teachingresources/discipline/maths/pages/numeracy-for-all-learners.aspx#link3>

Early Years Assessment and Learning Tool

<https://www.vic.gov.au/early-years-assessment-and-learning-tool>

Victorian Early Years Learning and Development Framework

<https://www.vcaa.vic.edu.au/curriculum/earlyyears/veyldf/veyldf-illustrative-maps/Pages/Communication.aspx>

VCAA Illustrative Maps Learning

<https://www.vcaa.vic.edu.au/curriculum/earlyyears/veyldf/veyldf-illustrative-maps/Pages/Learning.aspx>

VCAA Illustrative Maps Communication

<https://www.vcaa.vic.edu.au/curriculum/earlyyears/veyldf/veyldf-illustrative-maps/Pages/Communication.aspx>

Numeracy Guide Birth to Level 2

<http://numeracyguidedet.global2.vic.edu.au/numeracy-focus-areas-birth-to-level-2/>