

NZC Refreshed Curriculum compared with Numicon, a Structured Mastery Approach

The Progress Steps – the first six months

NZ Curriculum

Progress steps alert kaiako to specific aspects of learning that are essential and time sensitive as akonga work towards the progress outcome for this phase.

They support Kaiako to notice, recognise and respond to akonga learning in a timely fashion as kaiako offer multiples opportunities for learning and practice.

These opportunities will be meaningful for akonga if they connect with their home languages and value the ways akonga reason, communicate and make meaning (including through the use of augmentative and alternative

Numicon

Children’s learning is an ongoing and complicated process; likewise, assessing their understanding and moving them on in their learning is ongoing and formative. You can only gather your ideas about what children understand from what you see them doing and hear them saying as they work and play around their setting.

The guidance in **Firm Foundations** gives you an overview of the sorts of questions you might ask children as they engage in their activities and routines. These questions will help you to encourage children to talk about their developing ideas.

- The Assessing Opportunities will alert you to what to look and listen for as children work and play.
- Give children time to think before you expect them to answer and engage in conversations.
- Listen for children’s expressions as well as their vocabulary. Listen for children who self-correct. All this will help you sense whether their understanding is secure.
- Support hesitant children providing familiar equipment and group them with others who can be role models in a supportive environment.
- Note the Watchpoints every week to create purposeful learning opportunities.
- Record their progress as they explore a variety of activities throughout the day. This will help you assess throughout the year how their mathematical understanding is developing.
- Use the Tracking Tool to record progress of the children’s learning. The early parts of the programme are essential preparation for the complex ideas for ‘Phase One of the NZ Curriculum’.

Subitising	recognise instantly the total number of objects in a group of up to six	Spontaneously recognize and say the number names of the Numicon shape patterns without counting the objects to 10. Judge the quantity of up to 5 unarranged objects without counting.
Number structure		Chanting the count number sequence in order Counting objects using one number name for each object counted. Note their counting range. Count when they need to find out 'how many' in play situations. Count objects accurately and if they are rearranged do not have to count them again to say how many. Find the Numicon Shapes for the last number in a count and say the number name. Recite the count sequence to 20 with correct pronunciation. Build and recognise Numicon shape patterns using coloured pegs (note children's counting range). Use the cardinal principal to say how many are in a set. Say which has 'more' or 'less' objects, when comparing two sets. Refer to Numicon shapes by their number name. Make a reasonable estimate of up to 10 unarranged objects. Use number names for Cuisenaire rods. Begin to represent numbers greater than 10 with Numicon shapes and patterns.
Operations: Addition and Subtraction	join and separate groups of up to a total of 10 objects, and find the result by grouping and counting	Know when to add in day-to-day situations. Say the total when two Numicon shapes are combined, without counting the holes. Make up their own counting stories. Illustrate adding stories or problems with Numicon shapes or Cuisenaire rods. Add 1 to each number to 9 and then to 19. Make a general statement when they have noticed something that always happens. Tell an increase story and illustrate it by adding more with objects of Numicon shapes. Find numerical differences between two Numicon shapes, including when the difference is 0. Find numerical differences between small collections of everyday objects. Know when to take away within their daily routines. Name the pattern/shape left without counting the holes when part of it is hidden. Make up subtracting stories and illustrate them with shapes or rods.
Operations: Multiplication and Division		Share equally.
Rational Numbers		Divide a shape or area into halves and quarters in the context of play
Equality		Say which has 'more' or 'less', or 'same' number of objects when comparing two sets
Patterns	copy, continue, create, and describe a repeating pattern with two elements	Make simple repeating patterns with two elements. Copy, continue and devise simple repeating patterns.

		<p>Continue to work in a systematic way once they have been shown how to begin. Devise repeating patterns with more than two elements.</p>
Measurement	<p>directly compare two objects by an attribute (e.g., length, weight, capacity)</p>	<p>Identify the bigger/biggest, smaller/smallest, larger/largest Shape by touch from the Feely Bag Order three or more objects of different heights/lengths Compare the lengths of Cuisenaire rods. Compare the capacities of different containers. Compare the length and width/height of different objects. Describe two objects that are the same length as being of equal length. Order Cuisenaire rods 1 – 10. Compare objects by weight rather than just by size. Sequence everyday events and explain what they do, using language related to time. Recognise and name coins.</p>
Classification	<p>sort shapes and objects by one feature (e.g., colour, shape), identifying the feature chosen</p>	<p>Matching colours and Numicon shapes, matching pictures to colours and Numicon shapes. Use sizes of objects as a criterion for making comparisons. Using language of size order and describe their positions. Spot an odd one out given in a set and explain why it is the odd one out. Sort objects into given sets and describe the sets. Arrange and organise equipment in a logical way. Discuss similarities and differences between everyday objects. Sort objects according to similarities. Describe shapes as odd or even.</p>
Spatial reasoning	<p>compose by trial and error an outlined target shape using smaller shapes and decompose a shape into smaller shapes. follow instructions to move to a familiar location or locate an object.</p>	<p>Covering the baseboard with a variety of shapes by matching and manipulating with rotation and flipping. Identify and name a triangle, square, oblong, circle. Describe the properties of cuboids and cylinders. Confidently find rods that fit in a matching space. Create areas using compositions of other shapes and decompose these. (Jigsaws, tangrams, pattern blocks)</p>
Variability		<p>Explore concepts of always, sometimes and never in generalising groups.</p>