

KINDERGARTEN NUMERACY

Numeracy is the way we use math concepts in everyday life. In early childhood, numeracy is beginning right from the moment we are born. Children learn to understand daily routines when they are fed and go to bed, shapes when they hold different objects like spoons, and patterns and sequence from movements and repetition of stories and songs. As children grow, they start to attach meaning and concepts to what they are experiencing.

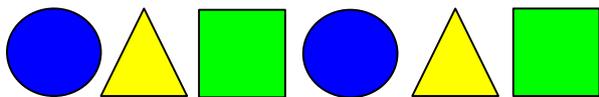
Numeracy recognizes five main strands: Number Sense, Measurement, Shape and Space, Patterns and Probability. The Manitoba Education Kindergarten Curriculum focuses on three of these strands.

What is Number Sense?

Number sense is the understanding of number relationships like “what comes next” and “how many”. The skills that support number sense development consist of counting, grouping, and subitizing. Children build on these skills by exploring hands on and visual number relations in a variety of contexts.

What are Patterns?

Patterns are items that occur in a repeated way. A pattern can be 1 item repeated, 2 items repeated, 3 items repeated, etc. Children will look for patterns around them, in seeing how things happen over and over. Kindergarten curriculum encourages children to recognize a pattern, copy a pattern, add on the pattern (grow it) and create their own patterns. Materials that lend themselves to making patterns could be blocks, beads, natural materials, loose parts, toys, and music. Below is an example of a simple pattern.



What are Shapes and Space?

Shapes are the external form or appearance of something: the outline of an area or figure. Preschool children start to recognize basic shapes such as triangle, circle, square and rectangle. At roughly three and four years of age, children learn several aspects of shapes, both two-dimensional (2-D) and solid (3-D). Children start to be able to recognize and define attributes or characteristics of shapes. For example, a triangle has three sides and three corners.

Space is about learning basic spatial concepts, how objects relate to one another and to us in space. Spatial ideas include simple location and position, perspective, coordinates, directions and aesthetic qualities. When children use a lego set or blocks, they need to understand the notion of space to describe the distance between blocks or how they are arranged. Children can understand locational terms (ex. In front of, behind, under). These ideas are the beginning of understanding basic geometry.

Chart for Number Sense

Concept	Description	Examples
Say number sequence by 1s, 1-30, backwards 10-1	Counting in order from 1-30 Counting backwards from 10-1	Count throughout the day (count objects, count in order forwards-try to get to 30 and backwards- try from 10-1) Singing counting songs. Caught a Fish - https://www.youtube.com/watch?v=9ir_l7qTiZ4 5 Little Monkeys- https://www.youtube.com/watch?v=0j6AZhZFb7A
Name familiar arrangements of 1-6 objects	Recognize the arrangements of dots on a dice without counting	Simple pick-up games - roll a dice and pick up the amount shown
Understand quantity of 1-10	How ever many objects you have, that is the total value.	Scavenger hunts (find 2 spoons, 3 rocks, 4 toy cars)
Represent numbers 2-10 in two pieces	Match the numbers to the correct amount of objects	Label amounts of items with numbers Say the numbers on a clock Matching games (use dominos, cards, or homemade cards)
Counting to 10, the last number is the amount of something	Counting up one number at a time and when you stop, that number is the total.	Ask the child to count how many toys they are playing with Set the table for meals and count the dishes
One-to-one correspondence	Point to the object with your finger while counting each object	Playing with Lego (counting pieces, building groups) Label amounts of items with numbers

Chart for Patterns

Concept	Description	Examples
Identifying patterns of 2-3 elements	Recognizing something repeating over and over again.	Notice patterns in your environment (ex. "You have stripes on today, green, red, green, red", the tile floor in the bathroom or kitchen, the fence outside)
Reproducing patterns of 2-3 elements	Copying a pattern that they see or hear.	Sing songs with actions (ex. Open Shut Them, Itsy Bitsy Spider, The Wheels on the Bus, If You're Happy and You Know It) Open Shut Them - https://www.youtube.com/watch?v=XR33CyEW_14&t=6s Itsy Bitsy Spider - https://www.youtube.com/watch?v=xwKX6m2tCR4 The Wheels on the Bus - https://www.youtube.com/watch?v=hvzMmwRNlfQ If You're Happy and You Know It - https://www.youtube.com/watch?v=zbflttfKc9U
Extending patterns of 2-3 elements	Continuing a pattern once it has stopped.	Make patterns with your body movements (ex. Jump, step, jump, step) Clap to the beat of the music or make a sound pattern (ex. Stomp, stomp, clap)
Creating patterns of 2-3 elements	Making their own patterns out of different materials.	Make patterns with toys (ex. Duplo, lego, blocks, cars, stuffed animals) Make patterns with loose parts (ex. Buttons, coins, sticks, rocks, pom poms, socks, shoes)

Chart for Shapes and Space

Concept	Description	Examples
Compare 2 items based on height, weight and capacity	Using descriptive words to describe objects (taller, smaller, heavy, light).	Build structures and talk about the differences
Sort 3D objects by a single attribute	Sort based on color, shape, and size.	Gather objects from around the house and ask the child to sort them based on (shape, size color)
Build and describe 3D objects	Creating constructions (towers, houses, ramps) using all kinds of materials and being able to describe and recognize shapes used.	Find shapes in everyday objects, have children name the shapes and describe the characteristics of the object.

