Mathematics Specific Learning Outcomes GRADE 3

[C] Communication	**[PS]** Problem Solving
[CN] Connections	**[R]** Reasoning Estimation
[ME] Mental Mathematics and Estimation	**[T]** Technology
	[V] Visualization

NUMBER

General Outcome
Develop number sense.

3.N.1. Say the number sequence between any two given numbers forward and backward
- from 0 to 1000 by
  - 10s or 100s, using any starting point
  - 5s, using starting points that are multiples of 5
  - 25s, using starting points that are multiples of 25
- from 0 to 100 by
  - 3s, using starting points that are multiples of 3
  - 4s, using starting points that are multiples of 4

[C, CN, ME]

3.N.2. Represent and describe numbers to 1000, concretely, pictorially, and symbolically.
[C, CN, V]

3.N.3. Compare and order numbers to 1000.
[CN, R, V]

3.N.4. Estimate quantities less than 1000 using referents.
[ME, PS, R, V]

3.N.5. Illustrate, concretely and pictorially, the meaning of place value for numerals to 1000.
[C, CN, R, V]

3.N.6. Describe and apply mental mathematics strategies for adding two 2-digit numerals, such as
- adding from left to right
- taking one addend to the nearest multiple of ten and then compensating
- using doubles

[C, ME, PS, R, V]

3.N.7. Describe and apply mental mathematics strategies for subtracting two 2-digit numerals, such as
- taking the subtrahend to the nearest multiple of ten and then compensating
- thinking of addition
- using doubles

[C, ME, PS, R, V]

3.N.8. Apply estimation strategies to predict sums and differences of two 2-digit numerals in a problem-solving context.
[C, ME, PS, R]

3.N.9. Demonstrate an understanding of addition and subtraction of numbers with answers to 1000 (limited to 1-, 2-, and 3-digit numerals) by
- using personal strategies for adding and subtracting with and without the support of manipulatives
- creating and solving problems in contexts that involve addition and subtraction of numbers concretely, pictorially, and symbolically.

[C, CN, ME, PS, R]

3.N.10. Apply mental math strategies to determine addition facts and related subtraction facts to 18 (9 + 9)
[C, CN, ME, R, V]

> Recall of addition and related subtraction facts to 18 is expected by the end of Grade 3.

3.N.11. Demonstrate an understanding of multiplication to 5 × 5 by
- representing and explaining multiplication using equal grouping and arrays
- creating and solving problems in context that involve multiplication
- modelling multiplication using concrete and visual representations, and recording the process symbolically
- relating multiplication to repeated addition
- relating multiplication to division

[C, CN, PS, R]

3.N.12. Demonstrate an understanding of division by
- representing and explaining division using equal sharing and equal grouping
- creating and solving problems in context that involve equal sharing and equal grouping
- modelling equal sharing and equal grouping using concrete and visual representations, and recording the process symbolically
- relating division to repeated subtraction
- relating division to multiplication
(limited to division related to multiplication facts up to 5 × 5).

[C, CN, PS, R]

3.N.13. Demonstrate an understanding of fractions by
- explaining that a fraction represents a portion of a whole divided into equal parts
- describing situations in which fractions are used
- comparing fractions of the same whole with like denominators

[C, CN, ME, R, V]

PATTERNS AND RELATIONS

General Outcome
Use patterns to describe the world and solve problems.

3.PR.1. Demonstrate an understanding of increasing patterns by
- describing
- extending
- comparing
- creating
patterns using manipulatives, diagrams, and numbers (to 1000).

[C, CN, PS, R, V]

3.PR.2. Demonstrate an understanding of decreasing patterns by
- describing
- extending
- comparing
- creating
patterns using manipulatives, diagrams, and numbers (starting from 1000 or less).

[C, CN, PS, R, V]

General Outcome
Represent algebraic expressions in multiple ways.

3.PR.3. Solve one-step addition and subtraction equations involving symbols representing an unknown number.
[C, CN, PS, R, V]

SHAPE AND SPACE

General Outcome
Use direct or indirect measurement to solve problems.

3.SS.1. Relate the passage of time to common activities using non-standard and standard units (minutes, hours, days, weeks, months, years).
[CN, ME, R]

3.SS.2. Relate the number of seconds to a minute, the number of minutes to an hour, and the number of days to a month in a problem-solving context.
[C, CN, PS, R, V]

3.SS.3. Demonstrate an understanding of measuring length (cm, m), by
- selecting and justifying referents for the units cm and m
- modelling and describing the relationship between the units cm and m
- estimating length using referents
- measuring and recording length, width and height

[C, CN, ME, PS, R, V]

3.SS.4. Demonstrate an understanding of measuring mass (g, kg) by
- selecting and justifying referents for the units g and kg
- modelling and describing the relationship between the units g and kg
- estimating mass using referents
- measuring and recording mass

[C, CN, ME, PS, R, V]

3.SS.5 Demonstrate an understanding of perimeter of regular and irregular shapes by
- estimating perimeter using referents for centimetre or metre
- measuring and recording perimeter (cm, m)
- constructing different shapes for a given perimeter (cm, m) to demonstrate that many shapes are possible for a perimeter

[C, ME, PS, R, V]

General Outcome
Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.

3.SS.6. Describe 3-D objects according to the shape of the faces and the number of edges and vertices.
[C, CN, PS, R, V]

3.SS.7. Sort regular and irregular polygons including
- triangles
- quadrilaterals
- pentagons
- hexagons
- octagons
according to the number of sides.

[C, CN, R, V]

STATISTICS AND PROBABILITY

General Outcome
Collect, display, and analyze data to solve problems.

3.SP.1. Collect first-hand data and organize it using
- tally marks
- line plots
- charts
- lists;
to answer questions.

[C, CN, V]

3.SP.2. Construct, label, and interpret bar graphs to solve problems.
[PS, R, V]