WNCP B.C. MATHEMATICS AT A GLANCE OVERVIEW – GRADE 3

Mathematical Processes

C = Communication	**PS = Problem Solving**	**V = Visualization**
R = Reasoning	**CN = Connections**	**T = Technology**

ME = Mental Mathematics and Estimation

NOTE: Text in *italics* is from the suggested achievement indicators.

STRAND: NUMBER General Outcome: Develop number sense *It is expected that students will:*	Mathematical Processes

A1 Say the number sequence forward and backward from 0 to 1000 by:
   (a) 5s, 10s or 100s using any starting point
   (b) 3s using starting points that are multiples of 3
   (c) 4s using starting points that are multiples of 4
   (d) 25s using starting points that are multiples of 25.
	C CN ME

A2 Represent and describe numbers to 1000 concretely, pictorially and symbolically.	C CN V
A3 Compare and order numbers to 1000.	CN R V
A4 Estimate quantities less than 1000 using referents.	ME PS R
A5 Illustrate, concretely and pictorially, the meaning of place value for numerals to 1000.	C CN R V

A6 Describe & apply mental mathematics strategies for adding two 2-digit numerals such as:
   (a) adding from left to right
   (b) taking one addend to the nearest multiple of ten and then compensating
   (c) using doubles.
	C ME PS R V

A7 Describe & apply mental strategies for subtracting two 2-digit numerals such as:
   (a) taking the subtrahend to the nearest multiple of ten and then compensating
   (b) thinking of addition
   (c) using doubles.
	C ME PS R V

A8 Apply estimation strategies to predict sums and differences of two 2-digit numerals in a problem-solving context.	C ME PS R

A9 Demonstrate an understanding of addition & subtraction of numbers with answers to 1000 (limited to 1, 2 and 3-digit numerals) concretely, pictorially & symbolically by:
   (a) using personal strategies for adding and subtracting with & without manipulatives
   (b) creating & solving problems in contexts that involve addition/subtraction of numbers concretely, pictorially and symbolically.
	C CN ME PS R

A10 Apply mental mathematics strategies and number properties, such as:
   (a) using doubles   **(b)** making 10
   (c) using the commutative property   **(d)** using the property of zero
   (e) thinking addition for subtraction
to recall basic addition facts to 18 and related subtraction facts.
	C CN ME R V

A11 Demonstrate an understanding of multiplication to 5 × 5 by:
   (a) representing and explaining multiplication using equal grouping and arrays
   (b) creating and solving problems in context that involve multiplication
   (c) modelling multiplication using concrete and visual representations, and recording the process symbolically
   (d) relating multiplication to repeated addition
   (e) relating multiplication to division.
*(**Recall not intended**)*
	C CN PS R

A12 Demonstrate an understanding of division by:
   (a) representing & explaining division using equal sharing and equal grouping
   (b) creating and solving problems in context that involve equal sharing and equal grouping
   (c) modelling equal sharing and equal grouping using concrete and visual representations, and recording the process symbolically
   (d) relating division to repeated subtraction
   (e) relating division to multiplication
(limited to division related to multiplication facts up to 5 x 5).
	C CN PS R

A13 Demonstrate an understanding of fractions *(concretely, pictorially or symbolically)* by:
   (a) explaining that a fraction represents a part of a whole
   (b) describing situations in which fractions are used
   (c) comparing fractions of the same whole with like denominators.
	C CN ME R V

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STRAND: STATISTICS & PROBABILITY (DATA ANALYSIS) General Outcome: Collect, display and analyze data to solve problems.	Mathematical Processes
D1 Collect first-hand data and organize it, using: **(a)** tally marks **(b)** line plots **(c)** charts **(d)** lists to answer questions.	C CN V
D2 Construct, label and interpret bar graphs to solve problems.	PS R V

STRAND: PATTERNS AND RELATIONS (PATTERNS) General Outcome: Use patterns to describe the world and solve problems.	Mathematical Processes
B1 Demonstrate an understanding of increasing patterns by: **(a)** describing **(b)** extending **(c)** comparing **(d)** creating patterns using manipulatives, diagrams, sound and actions (numbers to 1000).	C CN PS R V
B2 Demonstrate an understanding of decreasing patterns by: **(a)** describing **(b)** extending **(c)** comparing **(d)** creating patterns using manipulatives, diagrams, sound and actions (numbers to 1000).	C CN PS R V
STRAND: PATTERNS & RELATIONS (VARIABLES & EQUATIONS) General Outcome: Represent algebraic expressions in multiple ways.	Mathematical Processes
B3 Solve one-step addition and subtraction equations involving symbols representing an unknown number *(using manipulatives)*.	C CN PS R V

STRAND: SHAPE AND SPACE (MEASUREMENT) General Outcome: Use direct or indirect measurement to solve problems.	Mathematical Processes
C1 Relate the passage of time to common activities using non-standard and standard units (minutes, hours, days, weeks, months and years).	CN ME R
C2 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

C3   Demonstrate an understanding of measuring length (cm and m) by:
    (a) selecting and justifying referents for the units cm and m
    (b) modelling and describing the relationship between the units cm and m
    (c) estimating length using referents
    (d) measuring and recording length, width and height.
	C CN ME PS R V

C4   Demonstrate an understanding of measuring mass (g and kg) by:
    (a) selecting and justifying referents for the units g and kg
    (b) modelling and describing the relationship between the units g and kg
    (c) estimating mass using referents
    (d) measuring and recording mass.
	C CN ME PS R V

C5   Demonstrate an understanding of perimeter of regular and irregular shapes by:
    (a) estimating perimeter using referents for centimetre or metre
    (b) measuring and recording perimeter (cm and m)
    (c) constructing different shapes for a given perimeter (cm and m) to
        demonstrate that many shapes are possible for a perimeter.
	C ME PS R V

STRAND: SHAPE AND SPACE (3-D OBJECTS & 2-D SHAPES) General Outcome: Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.	Mathematical Processes
C6 Describe 3-D objects according to the shape of faces, number of edges & vertices.	C CN PS R V
C7 Sort regular and irregular polygons, including: **(a)** triangles **(b)** quadrilaterals **(c)** pentagons **(d)** hexagons **(e)** octagons according to the number of sides.	C CN R V