WNCP B.C. GRADE 2, 3 & 4 MATHEMATICS AT A GLANCE

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

STRAND: NUMBER

General Outcome: Develop number sense.

Grade 2 Prescribed Learning Outcomes	Grade 3 Prescribed Learning Outcomes	Grade 4 Prescribed Learning Outcomes
A1 Say the number sequence from 0 to 100 by: **(a)** 2s, 5s and 10s, forward & backward, using starting points that are multiples of 2, 5 & 10 **(b)** 10s using starting points from 1 to 9 **(c)** 2s starting from 1.	**A1** Say number sequence forward & backward from 0 to 1000 by: **(a)** 5s, 10s or 100s using any starting point **(b)** 3s using multiples of 3 starting points **(c)** 4s using multiples of 4 starting points **(b)** 25s using starting points that are multiples of 25.	
A2 Demonstrate if a number (up to 100) is even or odd.	**May be reviewed but do not assess**	
A3 Describe order or relative position using ordinal numbers (1st to 10th).		
A4 Represent and describe numbers to 100, concretely, pictorially and symbolically.	**A2** Represent and describe numbers to 1000 concretely, pictorially and symbolically.	**A1** Represent and describe whole numbers to 10 000 pictorially and symbolically.
A5 Compare and order numbers up to 100.	**A3** Compare and order numbers to 1000.	**A2** Compare and order numbers to 10 000.
A6 Estimate quantities to 100 using referents.	**A4** Estimate quantities less than 1000 using referents.	**May be reviewed but do not assess**
A7 Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.	**A5** Illustrate, concretely and pictorially, the meaning of place value for numerals to 1000.	
A8 Demonstrate and explain the effect of adding zero to or subtracting zero from any number.	**May be reviewed but do not assess**	
May be explored informally but do not assess	**A6** Describe and 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 then compensating **(c)** using doubles.	**May be reviewed but do not assess**
	A7 Describe and apply mental mathematics 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.	
	A8 Apply estimation strategies to predict sums and differences of two 2-digit numerals in a problem-solving context.	
A9 Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 & corresponding subtraction by: **(a)** using personal strategies for adding and subtracting with and without the support of manipulatives **(b)** creating and solving problems that involve addition and subtraction **(c)** explaining the order in which numbers are added does not affect the sum **(d)** explaining the order in which numbers are subtracted may affect the difference.	**A9** Demonstrate an understanding of addition and subtraction of numbers with answers to 1000 (limited to 1, 2 and 3-digit numerals) by: **(a)** using personal strategies for adding & subtracting with and without the support of manipulatives **(b)** creating and solving problems in contexts that involve addition and subtraction of numbers concretely, pictorially and symbolically.	**A3** Demonstrate an understanding of addition of numbers with answers to 10 000 and their corresponding subtractions (limited to 3 and 4-digit numerals) by: **(a)** using personal strategies for adding &subtracting **(b)** estimating sums and differences **(c)** solving problems involving addition & subtraction.

WNCP B.C. GRADE 2, 3 & 4 MATHEMATICS AT A GLANCE

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

STRAND: NUMBER (continued)

General Outcome: Develop number sense.

Grade 2 Prescribed Learning Outcomes	Grade 3 Prescribed Learning Outcomes	Grade 4 Prescribed Learning Outcomes
A10 Apply mental mathematics strategies, such as: **(a)** using doubles **(b)** making 10 **(c)** one more, one less **(d)** two more, two less **(e)** building on a known double **(f)** addition for subtraction to determine basic addition facts to 18 and related subtraction facts.	**A10** Apply mental mathematics strategies and number properties, such as: **(a)** using doubles **(b)** making 10 **(c)** using commutative property **(d)** property of 0 **(e)** thinking addition for subtraction to recall basic addition facts to 18 and related subtraction facts.	**A5** Describe & apply mental mathematics strategies, such as: **(a)** skip counting from a known fact **(b)** using doubling or halving **(c)** using doubling or halving and adding or subtracting one more group **(d)** using patterns in the 9s facts **(e)** using repeated doubling to determine basic multiplication facts to 9x9 & related division facts.
	May be explored informally but do not assess	**A4** Explain properties of 0 & 1 for multiplication;1 for division.
May be explored informally but do not assess	**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 & recording the process symbolically **(d)** relating multiplication to repeated addition **(e)** relating multiplication to division.	**A6** Demonstrate an understanding of multiplication (2 or 3-digit by 1-digit) to solve problems by: **(a)** using personal strategies for multiplication with and without concrete materials **(b)** using arrays to represent multiplication **(c)** connecting concrete to symbolic representations **(d)** estimating products.
	A12 Demonstrate an understanding of division by: **(a)** representing and 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 mult. facts up to 5 x 5).	**A7** Demonstrate an understanding of division(1-digit divisor and up to 2-digit dividend) to solve problems by: **(a)** using personal strategies for dividing with and without concrete materials **(b)** estimating quotients **(c)** relating division to multiplication. *It is not intended that remainders be expressed as decimals or fractions.*
	A13 Demonstrate an understanding of fractions *(concretely or pictorially)* by: **(a)** explaining a fraction represents a part of whole **(b)** describing situations in which fractions are used **(c)** comparing fractions of same whole with like denominators.	**A8** Demonstrate an understanding of fractions less than or equal to one by using concrete & pictorial representations to: **(a)** name and record fractions for the parts of a whole or a set **(b)** compare and order fractions **(c)** model/explain for different wholes, 2 identical fractions may not represent same quantity **(d)** provide examples where fractions are used.
	May be explored informally but do not assess	**A9** Describe and represent decimals (tenths and hundredths) concretely, pictorially and symbolically.
		A10 Relate decimals to fractions (to hundredths).
		A11 Demonstrate an understanding of addition and subtraction of decimals (limited to 100ths) to solve problems by: **(a)** using compatible numbers **(b)** estimating sums and differences **(c)** using mental math strategies

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STRAND: STATISTICS & PROBABILITY (DATA ANALYSIS)

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

Grade 2 Prescribed Learning Outcomes	Grade 3 Prescribed Learning Outcomes	Grade 4 Prescribed Learning Outcomes
D1 Gather and record data about self and others to answer questions.	**D1** Collect first-hand data and organize it to answer questions using: **(a)** tally marks **(b)** line plots **(c)** charts **(d)** lists	**May be reviewed but do not assess**
	May be explored informally but do not assess	**D1** Demonstrate an understanding of many-to-one correspondence.
D2 Construct and interpret concrete graphs and pictographs to solve problems.	**D2** Construct, label and interpret bar graphs to solve problems.	**D2** Construct and interpret pictographs and bar graphs involving many-to-one correspondence to draw conclusions.

STRAND: PATTERNS AND RELATIONS (PATTERNS)

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

B1 Demonstrate an understanding of repeating patterns (three to five elements) by: **(a)** describing **(b)** extending **(c)** comparing **(d)** creating patterns using manipulatives, diagrams, sounds, and actions.	**May be reviewed but do not assess**	
B2 Demonstrate understanding of increasing patterns by: **(a)** describing **(b)** reproducing **(c)** extending **(d)** creating patterns using manipulatives, diagrams, sounds and actions (numbers to 100).	**B1** Demonstrate an understanding of increasing patterns by: **(a)** describing **(b)** extending **(c)** comparing **(d)** creating patterns using manipulatives, diagrams, sounds, and actions (numbers to 1000).	**B1** Identify and describe patterns found in tables and charts, including a multiplication chart.
May be explored informally but do not assess	**B2** Demonstrate an understanding of decreasing patterns by: **(a)** describing **(b)** extending **(c)** comparing **(d)** creating patterns using manipulatives, diagrams, sounds, and actions (numbers to 1000).	**B2** Reproduce a pattern shown in a table or chart using concrete materials. **B3** Represent and describe patterns and relationships using charts and tables to solve problems.
	May be explored informally but do not assess	**B4** Identify and explain mathematical relationships using charts and diagrams to solve problems.

STRAND: PATTERNS & RELATIONS (VARIABLES & EQUATIONS)

General Outcome: Represent algebraic expressions in multiple ways.

B3 Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100).	**May be reveiwed but do not assess**	
B4 Record equalities and inequalities symbolically using the equal symbol or the not equal symbol.		**B5** Express a given problem as an equation in which a symbol is used to represent an unknown number *(concretely, pictorially or symbolically).*
May be explored informally but do not assess	**B3** Solve one-step addition and subtraction equations involving symbols representing an unknown number *(using manipulatives).*	**B6** Solve one-step equations involving a symbol to represent an unknown number *(using manipulatives).*

WNCP B.C. GRADE 2, 3 & 4 MATHEMATICS AT A GLANCE

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

STRAND: SHAPE AND SPACE (MEASUREMENT)

General Outcome: Use direct or indirect measurement to solve problems.

Grade 2 Prescribed Learning Outcomes	Grade 3 Prescribed Learning Outcomes	Grade 4 Prescribed Learning Outcomes
C1 Relate the number of days to a week and the number of months to a year in a problem-solving context.	**C1** Relate passage of time to common activities using non-standard and standard units (minutes, hours, days, weeks, months, years).	**C1** Read and record time using digital and analog clocks, including 24-hour clocks.
	C2 Relate number of seconds to a minute, minutes to an hour, days to a month in a problem-solving context.	**C2** Read and record calendar dates in a variety of formats.
C2 Relate the size of a unit of measure to the number of units (limited to non-standard units) used to measure length and mass (weight).	**C4** Demonstrate understanding of measuring mass (g, kg) by: **(a)** selecting & justifying referents for the units g & kg **(b)** modelling & describing the relationship between g & kg units **(c)** estimating mass using referents **(d)** measuring& recording mass.	**May be reviewed but do not assess**
C3 Compare & order objects by length, height, distance around and mass (weight) using non-standard units, and make statements of comparison.		
C4 Measure length to the nearest non-standard unit by: **(a)** using multiple copies of a unit **(b)** using a single copy of a unit (iteration process).	**C3** Demonstrate understanding of measuring length(cm, m) by: **(a)** selecting & justifying referents for the units cm & m **(b)** modelling & describing the relationship between cm & m units **(c)** estimating length using referents **(d)** measuring and recording length, width and height.	
C5 Demonstrate that changing the orientation of an object does not alter measurements of its attributes.	**May be reviewed but do not assess**	
May be explored informally but do not assess	**C5** Demonstrate understanding of perimeter of regular and irregular shapes by: **(a)** estimating perimeter using referents for cm or m. **(b)** measuring and recording perimeter (cm and m) **(c)** constructing different shapes for a given perimeter (cm, m) to demonstrate that many shapes are possible for a perimeter.	**C3** Demonstrate understanding of area of regular and irregular 2-D shapes by: **(a)** recognizing area is measured in square units **(b)** selecting/justifying referents (cm^2 or m^2) **(c)** estimating area using referents for cm^2 or m^2 **(d)** determining and recording area (cm^2 or m^2) **(e)** constructing different rectangles for a given area (cm^2 or m^2) to demonstrate many rectangles may have same area.

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.

C6 Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule.	**May be reviewed but do not assess**	
C7 Describe, compare, construct 3-D objects including: **(a)** cubes **(b)** spheres **(c)** cones **(d)** cylinders **(e)** pyramids.	**C6** Describe 3-D objects according to the shape of the faces, and the number of edges and vertices.	**C4** Describe and construct rectangular and triangular prisms.
C8 Describe, compare, construct 2-D shapes including: **(a)** triangles **(b)** squares **(c)** rectangles **(d)** circles.	**C7** Sort regular and irregular polygons according to the number of sides: **(a)** triangles **(b)** quadrilaterals **(c)** pentagons **(d)** hexagons **(e)** octagons.	**May be reviewed but do not assess**
C9 Identify 2-D shapes as parts of 3-D objects in the environment.	**May be reviewed but do not assess**	

TRAND: SHAPE AND SPACE (TRANSFORMATIONS)

General Outcome: Describe and analyze position and motion.

	May be explored informally but do not assess	**C5** Demonstrate an understanding of line symmetry by: **(a)** identifying **(b)** creating symmetrical 2-D shapes **(c)** drawing one or more lines of symmetry in a 2-D shape.