

B.C. AT A GLANCE CORRELATED WITH MATH MAKES SENSE: GRADE 4 (WNCP) & 3 (WESTERN)

NOTE: **Text in UPPERCASE** indicates outcomes that are not met in MATH MAKES SENSE Western. Text in *italics* is from the suggested achievement indicators.

STRAND: NUMBER

General Outcome: **Develop number sense.**

Use Unit and Cumulative Reviews Selectively

Grade 4 Prescribed Learning Outcomes	WNCP MMS 4 Meets	Grade 5 Prescribed Learning Outcomes	Western MMS 5 Meets	Exceeds
A1 Represent and describe whole numbers to 10 000 pictorially and symbolically.	Unit 2 Lesson 1	A1 Represent and describe whole numbers to 1 000 000.	Unit 2 Lesson 1 uses expanded form instead of expanded notation	Unit 2 Lesson 2 prime and composite
A2 Compare and order numbers to 10 000.	Unit 2 Lessons 2, 3 Unit 2 Problem	May be reviewed but do not assess		
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 and subtracting (b) estimating sums and differences (c) solving problems involving addition and subtraction.	Unit 2 Launch Unit 2 Lessons 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 Unit 2 Problem			
A4 Explain the properties of 0 and 1 for multiplication, and the property of 1 for division.	Unit 3 Lesson 2			
GR. 3: estimate quantities less than 1000 using referents		A2 Use estimation strategies including: (a) front-end rounding (b) compensation (c) compatible numbers in problem-solving contexts.	Unit 2 Launch, Lessons 3, 5, 10 Lessons 4, 6 review adding and subtracting 3 & 4-digit numbers	
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.	Unit 1 Lesson 5 Unit 3 Launch Unit 3 Lessons 1, 2, 3, 4, 5 Game p. 101 Unit 3 Lessons 7, 8, 9, 10 Unit 3 Problem	A3 Apply mental mathematics strategies and number properties, such as: (a) skip counting from a known fact (b) USING DOUBLING OR HALVING (c) USING PATTERNS IN THE 9S FACTS (d) USING REPEATED DOUBLING OR HALVING to determine (RECALL) answers for basic multiplication facts to 81 & related division facts.	Unit 2 Lesson 7, Game p. 50 limit assessment to facts to 81	
A6 Demonstrate an understanding of multiplication (2 or 3-digit by 1-digit) to solve problems by: (a) using personal strategies with and without concrete materials (b) using arrays to represent multiplication (c) connecting concrete representations to symbolic representations (d) estimating products.	Unit 8 Launch Unit 8 Lessons 1, 2, 3, 5, 6, 7 Unit 8 Problem	A4 Apply mental mathematics strategies for multiplication, such as: (a) annexing then adding zero (b) halving and doubling (c) using distributive property. A5 Demonstrate an understanding of 2-digit by 2-digit multiplication (<i>concretely, pictorially and symbolically</i>) to solve problems.	Unit 2 Lessons 8, 9, 13, Unit Problem Unit 10 Lesson 1 do not assess factors Unit 2 Lessons 9, 11, 13 Unit 10 Lesson 1	
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. <i>It is not intended that remainders be expressed as decimals or fractions.</i>	Unit 3 Lessons 7, 8, 9, 10 Unit 3 Problem Unit 8 Lessons 8, 9, 10, 11 Game p. 311 Unit 8 Problem	A6 Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit) and interpret remainders to solve problems.	Unit 2 Lesson 12 to 14, Game p. 71, Unit Problem Unit 8 Lesson 6 remainders are expressed as fractions, but not decimals	

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STRAND: NUMBER (continued)

General Outcome: Develop number sense.

Use Unit and Cumulative Reviews Selectively

Grade 4 Prescribed Learning Outcomes	WNCP MMS 4 Meets	Grade 5 Prescribed Learning Outcomes	Western MMS 5 Meets	Exceeds
A8 Demonstrate an understanding of fractions less than or equal to one by using concrete & pictorial representations to: (a) name & record fractions for the parts of a whole or a set (b) compare and order fractions (c) model/explain for different wholes that 2 two identical fractions may not represent same quantity (d) provide examples where fractions are used.	Unit 5 Launch Unit 5 Lessons 1, 2, 3, 4, 5, 6, 7, 8 Unit 5 Problem	A7 Demonstrate an understanding of fractions by using concrete and pictorial representations to: (a) create sets of equivalent fractions (b) compare fractions with like & unlike denominators.	Unit 8 Lessons 1, 3, 5, 10, Games p. 271 & 283, Unit Problem Part 1 & 2	Unit 8 Lesson 2, Unit Problem (part 3) mixed numbers
A9 Describe and represent decimals (tenths and hundredths) concretely, pictorially and symbolically.	Unit 5 Lessons 9, 10, 11	A8 DESCRIBE AND REPRESENT DECIMALS (TENTHS, HUNDREDTHS AND THOUSANDTHS) CONCRETELY, PICTORIALY AND SYMBOLICALLY.		Unit 4 all lessons relate decimals (10ths and 100ths) to mixed numbers
A10 Relate decimals to fractions (to hundredths).	Unit 5 Lessons 9, 10	A9 RELATE DECIMALS TO FRACTIONS (TO THOUSANDTHS).	Unit 8: Lesson 4	
May be explored informally but do not assess		A10 Compare and order decimals (TO THOUSANDTHS) by using: (a) benchmarks (b) PLACE VALUE (c) EQUIVALENT DECIMALS.	Unit 8 Lesson 5, Game p. 283 (10ths and 100ths only)	Unit 8 Launch, Lessons 7 to 9, 11, 12 multiply and divide decimals
A11 Demonstrate an understanding of addition & subtraction of decimals (limited to 100ths) to solve problems by: (a) using compatible numbers (b) estimating sums and differences (c) using mental math strategies.	Unit 5 Lessons 12, 13, 14	A11 DEMONSTRATE AN UNDERSTANDING OF ADDITION AND SUBTRACTION OF DECIMAL FRACTIONS (LIMITED TO THOUSANDTHS).	Unit 5 Lesson 7, and Unit 6 Lessons 5 and 6 review problem solving with money (grade 4 outcomes)	

STRAND: STATISTICS & PROBABILITY (DATA ANALYSIS)

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

D1 Demonstrate an understanding of many-to-one correspondence.	Unit 7 Launch Unit 7 Lessons 1, 2, 3, 4 Unit 7 Problem	D1 DIFFERENTIATE BETWEEN FIRST-HAND & SECOND-HAND DATA.		Unit 5 Lessons 4 to 6, frequency tables, line graphs, sample and population
D2 Construct and interpret pictographs and bar graphs involving many-to-one correspondence to draw conclusions.	Unit 7 Launch Unit 7 Lessons 1, 2, 3, 4 Unit 7 Problem	D2 CONSTRUCT AND INTERPRET DOUBLE BAR GRAPHS TO DRAW CONCLUSIONS.	Unit 5 Launch, Lessons 1 to 3 and Unit Problem review pictographs and bar graphs	

STRAND: STATISTICS & PROBABILITY (CHANCE AND UNCERTAINTY)

General Outcome: Use experimental or theoretical probabilities to represent & solve problems involving uncertainty.

May be explored informally but do not assess		D3 Describe the likelihood of a single outcome occurring using words such as: (a) impossible (b) possible (c) certain.	Unit 11 Lesson 1 See MMS3, MMS 4 Unit 11 first year for probability outcomes	Unit 11 Lessons 3 to 5, Unit Problem probability as a fraction
		D4 Compare the likelihood of two possible outcomes occurring using words such as: (a) less likely (b) equally likely (c) more likely.	Unit 11 Launch, Lessons 1, 2	

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STRAND: PATTERNS AND RELATIONS (PATTERNS)

General Outcome: Use patterns to describe the world and solve problems. Use Unit and Cumulative Reviews Selectively

Grade 4 Prescribed Learning Outcomes	WNCP MMS 4 Meets	Grade 5 Prescribed Learning Outcomes	Western MMS 5 Meets	Exceeds
B1 Identify and describe patterns found in tables and charts, including a multiplication chart.	Unit 1 Launch Unit 1 Lessons 1, 2, 3 Unit 1 Problem Unit 3 Lessons 3, 5 Unit 8 Lesson 6, 7	B1 Determine the pattern rule to make predictions about subsequent elements (<i>with & without concrete materials</i>).	Unit 1 Launch, Lessons 1 to 5, Unit Problem Unit 9 Lesson 10 Unit 10 Launch, Lessons 1, 3, 4, Unit Problem Cross Strand 2-3, 392-393	Unit 10 Lesson 2 line graphs
B2 Reproduce a pattern shown in a table or chart using concrete materials.	Unit 1 Lessons 2, 3	May be reviewed but do not assess		
B3 Represent and describe patterns and relationships using charts and tables to solve problems.	Investigation p. 2-3 Unit 1 Lessons 1, 2, 3 Unit 1 Problem Unit 3 Lesson 6 Unit 8 Lesson 4			
B4 Identify and explain mathematical relationships using charts and diagrams to solve problems.	Investigation p. 2-3 Unit 2 Lesson 3 Unit 6 Lesson 1 Investigation p. 316-317			

STRAND: PATTERNS & RELATIONS (VARIABLES & EQUATIONS)

General Outcome: Represent algebraic expressions in multiple ways.

B5 Express a given problem as an equation in which a symbol is used to represent an unknown number (<i>concretely, pictorially or symbolically</i>).	Unit 1 Lessons 4, 5 Unit 1 Problem	May be reviewed but do not assess		
B6 Solve one-step equations involving a symbol to represent an unknown number (<i>using manipulatives</i>).	Unit 1 Lessons 4, 5, 6 Unit 1 Problem Unit 2 Lesson 2	B2 SOLVE PROBLEMS INVOLVING SINGLE-VARIABLE, ONE-STEP EQUATIONS WITH WHOLE NUMBER COEFFICIENTS AND WHOLE NUMBER SOLUTIONS.		

STRAND: SHAPE AND SPACE (MEASUREMENT)

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

C1 Read and record time using digital and analog clocks, including 24-hour clocks.	Unit 4 Launch Unit 4 Lessons 2, 3, 4, 5, 6	Measuring Time, 24-Hour Clocks (reviews grade 4 outcomes)	Unit 6 Lessons 1 and 2	
C2 Read and record calendar dates in a variety of formats.	Unit 4 Lesson 1			
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.	Unit 3 Game p. 101 Unit 4 Lessons 7, 8, 9, 10, 11, 12, 13 Unit 4 Problem Investigation p. 170-171	C1 Design and construct different rectangles given either perimeter or area, or both (whole numbers) and draw conclusions.	Unit 9: Lessons 7, 10, Unit Problem Unit 10 Unit Problem Unit 9 Lesson 3, 5 reviews earlier grade outcomes (area, perimeter)	Unit 9 Lessons 4, 6, 8, 9 circumference perimeter in decimals

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STRAND: SHAPE AND SPACE (MEASUREMENT) (continued)

General Outcome: Use direct or indirect measurement to solve problems. Use Unit and Cumulative Reviews Selectively

Grade 4 Prescribed Learning Outcomes	WNCP MMS 4 Meets	Grade 5 Prescribed Learning Outcomes	Western MMS 5 Meets	Exceeds
GR. 3 cm and m measure / record length, width and height perimeter of regular and irregular shapes		C2 Demonstrate understanding of measuring length (mm) by: (a) selecting and justifying referents for the unit mm (b) modelling and describing the relationship between mm and cm units, and between mm and m units.	Unit 9 Launch, Lessons 1, 2 limited do not assess dm and km; see MMS 4 Unit 9 Lessons 2 and 5	Unit 9 Lessons 4, 6, 8, 9 circumference perimeter in decimals
GR. 3: g and kg		C3 Demonstrate an understanding of volume by: (a) SELECTING & JUSTIFYING REFERENTS FOR CM ³ OR M ³ (b) estimating volume USING REFERENTS CM ³ OR M ³ (c) measuring and recording volume (cm ³ or M ³) (d) constructing rectangular prisms for a given volume.	Unit 6 Launch, Lessons 8, 9; Lesson 10 reviews mass (mg exceed); first year for volume outcomes; see MMS 4 Unit 3 Lesson 11	Unit 6 Lessons 3, 4, 11, Unit Problem time and distance, line graphs, large masses
May be explored informally but do not assess		C4 Demonstrate an understanding of capacity by: (a) describing the relationship between mL and L (b) selecting & justifying referents for mL or L units (c) estimating capacity by using referents for mL or L (d) measuring and recording capacity (mL or L).	Unit 6 Launch, Lessons 7, 9 limited; first year for capacity outcomes; see MMS 4 Unit 6 Lesson 6	

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.

C4 Describe and construct rectangular and triangular prisms.	Unit 6 Launch Unit 6 Lessons 1, 2, 3, 4	C5 Describe and provide examples of edges and FACES of 3-D objects, and sides of 2-D shapes that are: (a) parallel (b) INTERSECTING (c) PERPENDICULAR (d) VERTICAL (e) HORIZONTAL.	Unit 3 Lessons 4, 5 limited; parallel edges of 3-D objects and sides of 2-D shapes only; Lesson 7 reviews grade 4 outcomes	Unit 3 Launch, Lessons 2, 3, 6, Unit Problem Cross Strand 108-109 angles, classifying & constructing triangles, planes of symmetry
GR. 3: triangle, quadrilateral, pentagon, hexagon, octagon sort regular & irregular polygons according to number of sides		C6 IDENTIFY AND SORT QUADRILATERALS, ACCORDING TO THEIR ATTRIBUTES, INCLUDING: (a) RECTANGLES (b) SQUARES (c) TRAPEZOIDS (d) PARALLELOGRAMS (e) RHOMBUSES.	Unit 3 Lesson 1 reviews identifying and naming polygons (gr. 3 and 4 outcomes)	

STRAND: SHAPE AND SPACE (TRANSFORMATIONS)

General Outcome: Describe and analyze position and motion.

C5 Demonstrate an understanding of line symmetry by: (a) identifying symmetrical 2-D shapes (b) creating symmetrical 2-D shapes (c) drawing one or more lines of symmetry in a 2-D shape.	Unit 6 Lessons 5, 6, 7 Game p. 245 Unit 6 Problem	May be reviewed but do not assess		Unit 7 Lessons 5, 7, Unit Problem tessellations, coordinate grids, similar figures
May be explored informally but do not assess		C7 Perform a single transformation (translation, rotation or reflection) of a 2-D shape (with and without technology) and draw and describe the image.	Unit 7 Lessons 1 to 3 first year for transformation outcomes; see MMS 4 Unit 7	Unit 10 Lesson 5 tiling patterns Cross Strand 256-257 similar figures
May be explored informally but do not assess		C8 Identify a single transformation including a translation, rotation and reflection of 2-D shapes.	Unit 7 Launch, Lessons 1 to 3; Lessons 4 and 6 review line symmetry	