

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

NOTE: Text in **UPPERCASE** indicates outcomes that are not met in MATH MAKES SENSE. 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	MMS 4 Meets	Exceeds	Additional Notes
<b>A1</b> Represent and describe whole numbers to 10 000 pictorially and symbolically.	Unit 2 Lesson 1		
<b>A2</b> Compare and order numbers to 10 000.	Unit 2 Lessons 3	Unit 2 Lesson 2 rounding	Rounding should not be taught explicitly unless other estimating strategies are taught at the same time.
<b>A3</b> 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 1 Game p. 24, Unit Problem Unit 2 Launch, Lessons 4 to 12, Unit Problem Unit 6 Launch, Lessons 3, 4 strategies are limited		Provide opportunities for students to <i>describe a situation in which an estimate rather than an exact answer is sufficient</i> . When rounding is used as a strategy, replace the phrase "rounds to" with "is closest to". Have students find the number closest to the nearest 10, 100 or 1000. Rounding should not be taught explicitly.
<b>A4</b> EXPLAIN THE PROPERTIES OF 0 AND 1 FOR MULTIPLICATION, AND THE PROPERTIES OF 1 FOR DIVISION.			
<b>A5</b> 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 up to 9 x 9 and related division facts.	Unit 4 Launch, Lesson 1 Explore only, Lessons 2 to 6, 8, 9, Game p. 157, Unit Problem	Unit 4 Lesson 1 Connect and Practice multiples	
<b>A6</b> Demonstrate an understanding of multiplication (2 or 3-digit by 1-digit) to solve problems by: (a) using personal strategies with & without concrete materials (b) using arrays to represent multiplication (c) connecting concrete representations to symbolic representations (d) estimating products.	Unit 4 Lessons 4 to 6 Unit 10 Lessons 2, 3	Do not assess multiplying thousands in Unit 4 Lesson 4	Provide opportunities for students to <i>model a given multiplication problem using the distributive property</i> (e.g., $8 \times 365 = (8 \times 300) + (8 \times 60) + (8 \times 5)$ ). This is also referred to as expanded form.

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## STRAND: NUMBER (continued)

General Outcome: Develop number sense.

Use Unit and Cumulative Reviews Selectively

Grade 4 Prescribed Learning Outcomes	MMS 4 Meets	Exceeds	Additional Notes
<b>A7</b> Demonstrate an understanding of division (1-digit divisor and up to 2-digit dividend) to solve problems by: (a) using personal strategies with & without concrete materials <b>(b) ESTIMATING QUOTIENTS</b> (c) relating division to multiplication.	<b>Unit 4</b> Lessons 8 to 12, Unit Problem <b>Unit 10</b> Lesson 7	<b>Unit 10</b> Lesson 8 3-digit dividends	<i>It is not intended that remainders be expressed as decimals or fractions.</i>
<b>A8</b> Demonstrate an understanding of fractions less than or equal to one by using concrete and pictorial representations to: (a) name & record fractions for the parts of a whole or a set (b) compare and order fractions <b>(c) MODEL AND EXPLAIN THAT FOR DIFFERENT WHOLES, TWO IDENTICAL FRACTIONS MAY NOT REPRESENT THE SAME QUANTITY</b> <b>(d) PROVIDE EXAMPLES WHERE FRACTIONS ARE USED.</b>	<b>Unit 8</b> Launch, Lessons 1 to 4.	<b>Unit 8</b> Lesson 5 to 10, Unit Problem equivalent fractions, mixed numbers, compare and order mixed numbers, compare and order decimals related to mixed numbers Technology p. 294, 297 fractions on a calculator	
<b>A9</b> DESCRIBE AND REPRESENT DECIMALS (TENTHS AND HUNDREDTHS) CONCRETELY, PICTORIALY AND SYMBOLICALLY.			
<b>A10</b> RELATE DECIMALS TO FRACTIONS (TO HUNDREDTHS).			
<b>A11</b> Demonstrate an understanding of addition & subtraction of decimals (limited to 100ths) by: (a) <b>USING COMPATIBLE NUMBERS</b> (b) estimating sums and differences (c) using mental math strategies to solve problems.	<b>Unit 6</b> Lessons 5 to 7 money <b>Unit 8</b> Lesson 13 money	<b>Unit 8</b> Lessons 11 and 12, Unit Problem adding and subtracting decimals related to mixed numbers	Sums and differences for money can be greater than 1.

## STRAND: STATISTICS & PROBABILITY (DATA ANALYSIS)

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

Grade 4 Prescribed Learning Outcomes	MMS 4 Meets	Exceeds	Additional Notes
<b>D1</b> DEMONSTRATE AN UNDERSTANDING OF MANY-TO-ONE CORRESPONDENCE.			Technology p. 181 and 187 may be used to support this outcome.
<b>D2</b> Construct and interpret pictographs and bar graphs involving many-to-one correspondence to draw conclusions.	<b>Unit 5</b> Launch, Lessons 1, 2, 4 to 6, Unit Problem	<b>Unit 5</b> Lesson 3 circle graphs	The word scale is used for intervals. The word key is used for legend. Do not assess range.
<b>May be explored informally but do not assess</b>		<b>Unit 11</b> probability	Probability outcomes begin in grade 5.

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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	MMS 4 Meets	Exceeds	Additional Notes
<b>B1</b> Identify and describe patterns found in tables and charts, including a multiplication chart.	<b>Unit 1</b> Launch, Lesson 1, Unit Problem <b>Unit 4</b> Lessons 1, 2 <b>Unit 10</b> Lesson 2	<b>Unit 1</b> Lesson 3 patterns with calculators	Provide opportunities for students to <i>identify error(s) or determine missing elements in a given table or chart.</i>
<b>B2</b> Reproduce a pattern shown in a table or chart using concrete materials.	<b>Unit 10</b> Launch, Lessons 1, 4 to 6		Prompt students to <i>explain why the same relationship exists between the pattern in a table and its concrete representation</i>
<b>B3</b> Represent and describe patterns and relationships using charts and tables to solve problems.	<b>Unit 1</b> Launch, Lesson 1, Unit Problem <b>Unit 4</b> Lesson 7 <b>Unit 5</b> Lesson 7 <b>Unit 10</b> Lessons 2, 4 to 6		Unit 1 Lesson 2 and Unit 10 Unit Problem review grade 3 outcomes.
<b>B4</b> Identify and explain mathematical relationships using charts and diagrams to solve problems.	<b>Unit 2</b> Lesson 3A <b>Unit 5</b> Launch, Lesson 1 <b>Unit 9</b> Lesson 4 <b>Cross Strand:</b> p. 2-3, p. 116-117, p. 268-269		Provide additional opportunities for <i>students to solve a given problem using a Carroll diagram and to identify a sorting rule for a given Venn diagram.</i>

## STRAND: PATTERNS & RELATIONS (VARIABLES & EQUATIONS)

**General Outcome: Represent algebraic expressions in multiple ways.**

<b>B5</b> EXPRESS A GIVEN PROBLEM AS AN EQUATION IN WHICH A SYMBOL IS USED TO REPRESENT AN UNKNOWN NUMBER (CONCRETELY, PICTORIALY OR SYMBOLICALLY).	no direct instructional activities other than missing addends		
<b>B6</b> Solve one-step equations involving a symbol to represent an unknown number ( <i>using manipulatives</i> ).	<b>Unit 1</b> Lessons 4, 5 limited; addition and subtraction only	<b>Unit 1</b> Lesson 6 More than one unknown number	Provide opportunities for students to <i>solve a given one-step equation using manipulatives or guess and test and to describe orally the meaning of a given one-step equation with one unknown</i>

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## STRAND: SHAPE AND SPACE (MEASUREMENT)

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

Grade 4 Prescribed Learning Outcomes	MMS 4 Meets	Exceeds	Additional Notes
<b>C1</b> Read and record time using digital and analog clocks, <b>INCLUDING 24-HOUR CLOCKS.</b>	<b>Unit 6</b> Launch, Lessons 1 to 4 See MMS 2 & 3 limited		This is the first year for telling time outcomes. Supplement with introductory lessons. See MMS Grade 2 Unit 3 Lesson 3 and MMS Unit 6 Lesson 2.
<b>C2</b> READ AND RECORD CALENDAR DATES IN A VARIETY OF FORMATS.			
<b>C3</b> Demonstrate an understanding of area of regular and irregular 2-D shapes by: <b>(a) RECOGNIZING AREA IS MEASURED IN SQUARE UNITS</b> <b>(b) SELECTING &amp; JUSTIFYING REFERENTS FOR CM<sup>2</sup> OR M<sup>2</sup></b> <b>(c) ESTIMATING AREA USING REFERENTS FOR CM<sup>2</sup> OR M<sup>2</sup></b> (d) determining and recording area (cm <sup>2</sup> or m <sup>2</sup> ) (e) constructing different rectangles for a given area (cm <sup>2</sup> or m <sup>2</sup> ) in order to demonstrate that many rectangles may have the same area.	<b>Unit 9</b> Launch, Lessons 8 to 13, Unit Problem  Unit 10 Lesson 9 area patterns review grade 3 outcomes	<b>Unit 9</b> Lessons 2, 3, 5 to 7 mm and dm; relating units of length; perimeters using decimals	Prompt students to <i>describe area as the measure of surface recorded in square units and to identify and explain why the square is the most efficient unit for measuring area</i>
<b>May be reviewed but do not assess</b>	<b>Unit 9</b> Lesson 1 length <b>Unit 6</b> Lesson 9 mass	<b>Unit 6</b> Lesson 8, Unit Problem capacity	

## 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.**

<b>C4</b> Describe and construct rectangular and triangular prisms.	<b>Unit 3</b> Lessons 8 limited, 8A, 9 to 11 limited; reviews gr. 3 outcomes <b>Cross Strand:</b> p. 116-117	<b>Unit 3</b> Launch, Lessons 1 to 7, Unit Problem 2-D geometry	All solids are included in Unit 3. Focus on rectangular and triangular prisms when assessing. Do not assess volume in Unit 3 Lesson 11.
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## STRAND: SHAPE AND SPACE (TRANSFORMATIONS)

**General Outcome: Describe and analyze position and motion.**

<b>C5</b> Demonstrate an understanding of line symmetry ( <i>with and without manipulatives</i> ) by: <b>(a) IDENTIFYING SYMMETRICAL 2-D SHAPES</b> <b>(b) CREATING SYMMETRICAL 2-D SHAPES</b> (c) drawing one or more lines of symmetry in a 2-D shape.	<b>Unit 4</b> Lesson 2 limited <b>Unit 7</b> Lesson 4	<b>Unit 7</b> Launch, Lessons 1 to 3, 5 to 7, Unit Problem grids, coordinates, transformations	See MMS 3 Unit 7 Lesson 6.
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