

Correlation of *Math Makes Sense 4* to the new Ontario Curriculum

Ontario Grade 4 Curriculum	<i>Math Makes Sense 4</i> Student Text	Comments
B. Number		
B1. Number Sense		
Whole Numbers		
B1.1 read, represent, compose, and decompose whole numbers up to and including 10 000, using appropriate tools and strategies, and describe various ways they are used in everyday life	Unit 2, Lesson 1, pages 30-32	
B1.2 compare and order whole numbers up to and including 10 000, in various contexts	Unit 2, Lesson 3, pages 37-39	
B1.3 round whole numbers to the nearest ten, hundred, or thousand, in various contexts	Unit 2, Lesson 2, pages 33-36	
Fractions and Decimals		
B1.4 represent fractions from halves to tenths using drawings, tools, and standard fractional notation, and explain the meanings of the denominator and the numerator	Unit 8, Opener, pages 270, 271; Lesson 1, pages 272-274; Lesson 3, pages 277-279	
B1.5 use drawings and models to represent, compare, and order fractions representing the individual portions that result from two different fair-share scenarios involving any combination of 2, 3, 4, 5, 6, 8, and 10 sharers	Unit 8, Lesson 2, pages 275, 276; Lesson 3, pages 277-279; Lesson 4, pages 280, 281; Lesson 7, pages 288-290	
B1.6 count to 10 by halves, thirds, fourths, fifths, sixths, eighths, and tenths, with and without the use of tools	Unit 8, Lesson 6, pages 285-287; Technology, page 294	Counting by fractions is not explicitly addressed.
B1.7 read, represent, and order decimal tenths, in various contexts	Unit 8, Lesson 8, pages 291-293; Lesson 10, pages 298-300	
B1.8 round decimal numbers to the nearest whole number, in various contexts		Rounding decimals to the nearest whole number is not addressed.
B1.9 describe relationships and show equivalences among fractions and decimal tenths, in various contexts	Unit 8, Lesson 5, pages 282-284; Lesson 8, pages 291-293; Technology, page 297	

B2. Operations		
Properties and Relationships		
B2.1 use the properties of operations, and the relationships between addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations	Unit 2, Lesson 12, pages 62, 63; Unit Problem, pages 66, 67 See B2.4; B2.5; B2.6	
Math Facts		
B2.2 recall and demonstrate multiplication facts for 1×1 to 10×10 , and related division facts	Unit 4, Lesson 1, pages 120-122; Lesson 2, pages 123-126; Lesson 3, pages 127-130	
Mental Math		
B2.3 use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used	Unit 4, Lesson 4, pages 131-134; Games, page 157 Unit 8, Lesson 11, pages 301-304; Lesson 12, pages 305-307	Dividing a whole number by 10 is not addressed.
Addition and Subtraction		
B2.4 represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 10 000 and of decimal tenths, using appropriate tools and strategies, including algorithms	Unit 2, Lesson 4, pages 40-42; Lesson 5, pages 43, 44; Lesson 6, pages 45-47; Lesson 7, pages 48-50; Lesson 8, pages 51, 52; Lesson 9, pages 53, 54; Lesson 10, pages 55-58; Lesson 11, pages 59-61 Unit 8, Lesson 11, pages 301-304; Lesson 12, pages 305-307	

Multiplication and Division		
B2.5 represent and solve problems involving the multiplication of two- or three-digit whole numbers by one-digit whole numbers and by 10, 100, and 1000, using appropriate tools, including arrays	Unit 4, Lesson 5, pages 135, 136; Lesson 6, pages 137-139 Unit 10, Lesson 3, pages 369-371	
B2.6 represent and solve problems involving the division of two- or three-digit whole numbers by one-digit whole numbers, expressing any remainder as a fraction when appropriate, using appropriate tools, including arrays	Unit 4, Lesson 8, pages 142-144; Lesson 9, pages 145-147; Lesson 10, pages 148-150; Lesson 11, pages 151-153; Lesson 12, pages 154-156 Unit 10, Lesson 7, pages 382, 383; Lesson 8, pages 384-386	Expressing the remainder as a fraction is not addressed. See <i>Math Makes Sense 5</i> Student Text, Unit 8, Lesson 6 for relating fractions to division.
B2.7 represent the relationship between the repeated addition of a unit fraction and the multiplication of that unit fraction by a whole number, using tools, drawings, and standard fractional notation	Unit 8, Lesson 3, pages 277-279	
B2.8 show simple multiplicative relationships involving whole-number rates, using various tools and drawings		Rates are not addressed.
C. Algebra		
C1. Patterns and Relationships		
Patterns		
C1.1 identify and describe repeating and growing patterns, including patterns found in real-life contexts	Unit 1, Lesson 1, pages 6-9; Lesson 2, pages 10-13 Unit 10, Lesson 1, pages 364-366; Lesson 4, pages 372-375; Lesson 5, pages 376-379	

<p>C1.2 create and translate repeating and growing patterns using various representations, including tables of values and graphs</p>	<p>Unit 1, Lesson 1, pages 6-9; Lesson 2, pages 10-13; Lesson 3, pages 14-16</p> <p>Unit 10, Lesson 1, pages 364-366; Lesson 4, pages 372-375; Lesson 5, pages 376-379; Lesson 6, pages 380, 381</p>	<p>Graphical representation of patterns is not addressed.</p>
<p>C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in repeating and growing patterns</p>	<p>Unit 1, Lesson 1, pages 6-9; Lesson 2, pages 10-13; Lesson 3, pages 14-16</p> <p>Unit 10, Lesson 1, pages 364-366; Lesson 4, pages 372-375; Lesson 5, pages 376-379</p>	
<p>C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal tenths</p>	<p>Unit 1, Lesson 1, pages 6-9; Lesson 2, pages 10-13; Lesson 3, pages 14-16</p> <p>Unit 10, Lesson 2, pages 367, 368</p>	<p>Patterns to illustrate relationships among decimal tenths is not addressed.</p>
<p>C2. Equations and Inequalities</p>		
<p>Variables</p>		
<p>C2.1 identify and use symbols as variables in expressions and equations</p>	<p>Unit 1, Lesson 4, pages 17-19; Lesson 5, pages 20, 21; Lesson 6, pages 22, 23</p>	
<p>Equalities and Inequalities</p>		
<p>C2.2 solve equations that involve whole numbers up to 50 in various contexts, and verify solutions</p>	<p>Unit 1, Lesson 4, pages 17-19; Lesson 5, pages 20, 21; Lesson 6, pages 22, 23</p>	
<p>C2.3 solve inequalities that involve addition and subtraction of whole numbers up to 20, and verify and graph the solutions</p>		<p>Inequalities are not addressed.</p>

C3. Coding		
Coding Skills		
C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, repeating, and nested events		Coding is not addressed.
C3.2 read and alter existing code, including code that involves sequential, concurrent, repeating, and nested events, and describe how changes to the code affect the outcomes		Coding is not addressed.
D. Data		
D1. Data Literacy		
Data Collection and Organization		
D1.1 describe the differences between qualitative and quantitative data, and describe situations where each would be used		The differences between qualitative and quantitative data is not addressed.
D1.2 collect data from primary and secondary sources to answer questions of interest that involve comparing two or more sets of data, and organize the data in frequency tables and stem-and-leaf plots	Unit 5, Lesson 6, pages 190, 191	Comparing two or more sets of data, and stem-and-leaf plots are not addressed. See <i>Math Makes Sense 7</i> , Unit 5, Lesson 5.3 for stem-and-leaf plots.
Data Visualization		
D1.3 select from among a variety of graphs, including multiple-bar graphs, the type of graph best suited to represent various sets of data; display the data in the graphs with proper sources, titles, and labels, and appropriate scales; and justify their choice of graph	Unit 5, Lesson 4, pages 177-180; Lesson 5, pages 184-186	Selecting the type of graph, and multiple-bar graphs are not addressed.

<p>D1.4 create an infographic about a data set, representing the data in appropriate ways, including in frequency tables, stem-and-leaf plots, and multiple-bar graphs, and incorporating any other relevant information that helps to tell a story about the data</p>		<p>Creating an infographic, stem-and-leaf plots, and multiple-bar graphs are not addressed. See <i>Math Makes Sense 6</i> Student Text, Unit 5, Lesson 1 for examples of multiple-bar graphs.</p>
<p>Data Analysis</p>		
<p>D1.5 determine the mean and the median and identify the mode(s), if any, for various data sets involving whole numbers, and explain what each of these measures indicates about the data</p>		<p>The mean, median, and mode are not addressed. See <i>Math Makes Sense 5</i> Student Text, Unit 5, Lesson 2, for mean and mode. See <i>Math Makes Sense 6</i> Student Text, Unit 5, Lesson 2, for median.</p>
<p>D1.6 analyse different sets of data presented in various ways, including stem-and-leaf plots and multiple-bar graphs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions</p>	<p>Unit 5, Lesson 1, pages 166-169; Lesson 2, pages 170-173; Lesson 3, pages 174-176; Lesson 4, pages 177-180; Lesson 5, pages 184-186</p>	<p>Stem-and-leaf plots and multiple-bar graphs are not addressed.</p>
<p>D2. Probability</p>		
<p>Probability</p>		
<p>D2.1 use mathematical language, including the terms “impossible”, “unlikely”, “equally likely”, “likely”, and “certain”, to describe the likelihood of events happening, represent this likelihood on a probability line, and use it to make predictions and informed decisions</p>	<p>Unit 11, Lesson 1, pages 400-403; Lesson 2, pages 404-407; Lesson 3, pages 408, 409; Lesson 4, pages 410-412; Lesson 5, pages 413-415</p>	
<p>D2.2 make and test predictions about the likelihood that the mean, median, and mode(s) of a data set will be the same for data collected from different populations</p>		<p>Making and testing predictions about the mean, median, and modes is not addressed.</p>

E. Spatial Sense		
E1. Geometric and Spatial Reasoning		
Geometric Reasoning		
E1.1 identify geometric properties of rectangles, including the number of right angles, parallel and perpendicular sides, and lines of symmetry	Unit 3, Lesson 4, pages 81-84; Lesson 5, pages 85-88; Lesson 6, pages 89-92 Unit 7, Lesson 4, pages 247-250	
Location and Movement		
E1.2 plot and read coordinates in the first quadrant of a Cartesian plane, and describe the translations that move a point from one coordinate to another		The Cartesian plane is not addressed. See <i>Math Makes Sense 6</i> Student Text, Unit 5, Lesson 5 for plotting and reading coordinates.
E1.3 describe and perform translations and reflections on a grid, and predict the results of these transformations	Unit 7, Lesson 2, pages 240-243; Lesson 3, pages 244-246	
E2. Measurement		
The Metric System		
E2.1 explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity	Unit 6, Lesson 8, pages 222-225; Lesson 9, pages 226-228	
E2.2 use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity	Unit 6, Lesson 8, pages 222-225; Lesson 9, pages 226-228 Unit 9, Lesson 1, pages 320-323; Lesson 2, pages 324-326; Lesson 3, pages 327-329; Lesson 5, pages 332-334	
Time		
E2.3 solve problems involving elapsed time by applying relationships between different units of time	Unit 6, Lesson 1, pages 200-202; Lesson 4, pages 209-212	

Angles		
E2.4 identify angles and classify them as right, straight, acute, or obtuse	Unit 3, Lesson 2, pages 73-76	The terms right, straight, acute, and obtuse are not addressed. See <i>Math Makes Sense 5</i> Student Text, Unit 3, Lesson 2 for an explanation of these terms.
Area		
E2.5 use the row and column structure of an array to measure the areas of rectangles and to show that the area of any rectangle can be found by multiplying its side lengths	Unit 9, Lesson 9, pages 345-347	Calculating the area of a rectangle given its side lengths is not addressed. See <i>Math Makes Sense 5</i> Student Text, Unit 9, Lesson 8 for the area of a rectangle as the product of its side lengths.
E2.6 apply the formula for the area of a rectangle to find the unknown measurement when given two of the three		The formula for the area of a rectangle is not addressed. See <i>Math Makes Sense 5</i> Student Text, Unit 9, Lesson 8 for solving problems involving the area of a rectangle.
F. Financial Literacy		
F1. Money and Finances		
Money Concepts		
F1.1 identify various methods of payment that can be used to purchase goods and services		Financial literacy is not addressed.
F1.2 estimate and calculate the cost of transactions involving multiple items priced in whole-dollar amounts, not including sales tax, and the amount of change needed when payment is made in cash, using mental math		Financial literacy is not addressed.
Financial Management		
F1.3 explain the concepts of spending, saving, earning, investing, and donating, and identify key factors to consider when making basic decisions related to each		Financial literacy is not addressed.

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F1.4 explain the relationship between spending and saving, and describe how spending and saving behaviours may differ from one person to another		Financial literacy is not addressed.
Consumer and Civic Awareness		
F1.5 describe some ways of determining whether something is reasonably priced and therefore a good purchase		Financial literacy is not addressed.