

My Math Path 8 – 2020 Ontario Curriculum Correlation*

Strand/Expectation			Module/Chapter/Lesson
Strand A: Social-Emotional Learning (SEL) Skills and the Mathematical Processes			
By the end of Grade 8, students will:			
1. Identify and manage emotions	<ul style="list-style-type: none"> • <i>problem solving</i>: develop, select, and apply problem-solving strategies • <i>reasoning and proving</i>: develop and apply reasoning skills (e.g., classification, recognition of relationships, use of counter-examples) to justify thinking, make and investigate conjectures, and construct and defend arguments • <i>reflecting</i>: demonstrate that as they solve problems, they are pausing, looking back, and monitoring their thinking to help clarify their understanding (e.g., by comparing and adjusting strategies used, by explaining why they think their results are reasonable, by recording their thinking in a math journal) • <i>connecting</i>: make connections among mathematical concepts, procedures, and representations, and relate mathematical ideas to other contexts (e.g., other curriculum areas, daily life, sports) • <i>communicating</i>: express and understand mathematical thinking, and engage in mathematical arguments using everyday language, language resources as necessary, appropriate mathematical terminology, a variety of representations, and mathematical conventions • <i>representing</i>: select from and create a variety of representations of mathematical ideas (e.g., representations involving physical models, pictures, numbers, variables, graphs), and apply them to solve problems • <i>selecting tools and strategies</i>: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems 	1. express and manage their feelings, and show understanding of the feelings of others, as they engage positively in mathematics activities	Throughout chapters
2. recognize sources of stress and cope with challenges		2. work through challenging math problems, understanding that their resourcefulness in using various strategies to respond to stress is helping them build personal resilience	Throughout chapters
3. maintain positive motivation and perseverance		3. recognize that testing out different approaches to problems and learning from mistakes is an important part of the learning process, and is aided by a sense of optimism and hope	Throughout chapters
4. build relationships and communicate effectively		4. work collaboratively on math problems – expressing their thinking, listening to the thinking of others, and practising inclusivity – and in that way fostering healthy relationships	Throughout chapters
5. develop self-awareness and sense of identity		5. see themselves as capable math learners, and strengthen their sense of ownership of their learning, as part of their emerging sense of identity and belonging	Throughout chapters
6. think critically and creatively		6. make connections between math and everyday contexts to help them make informed judgements and decisions	Throughout chapters

Overall expectation	Specific expectations	Module/Chapter/Lesson
Strand B: Number		
By the end of Grade 8, students will:		
B1. Number Sense demonstrate an understanding of numbers and make connections to the way numbers are used in everyday life	Rational and Irrational Numbers B1.1 represent and compare very large and very small numbers, including through the use of scientific notation, and describe various ways they are used in everyday life	Chapter 2, Lesson 2
	B1.2 describe, compare, and order numbers in the real number system (rational and irrational numbers), separately and in combination, in various contexts	Chapter 1, Lesson 2
	B1.3 estimate and calculate square roots, in various contexts	Chapter 1, Lesson 1
	Fractions, Decimals, and Percents B1.4 use fractions, decimal numbers, and percents, including percents of more than 100% or less than 1%, interchangeably and flexibly to solve a variety of problems	Chapter 7, Lesson 2
B2. Operations use knowledge of numbers and operations to solve mathematical problems encountered in everyday life	Properties and Relationships B2.1 use the properties and order of operations, and the relationships between operations, to solve problems involving rational numbers, ratios, rates, and percents, including those requiring multiple steps or multiple operations	Chapter 4, Lesson 4
	Math Facts B2.2 understand and recall commonly used square numbers and their square roots	Chapter 1, Lesson 1
	Mental Math B2.3 use mental math strategies to multiply and divide whole numbers and decimal numbers up to thousandths by powers of ten, and explain the strategies used	Chapter 2, Lesson 1
	Addition and Subtraction B2.4 add and subtract integers, using appropriate strategies, in various contexts	Chapter 4, Lesson 2
	B2.5 add and subtract fractions, using appropriate strategies, in various contexts	Chapter 3, Lesson 4 Chapter 4, Lesson 3
	Multiplication and Division B2.6 multiply and divide fractions by fractions, as well as by whole numbers and mixed numbers, in various contexts	Chapter 3, Lesson 1-4
	B2.7 multiply and divide integers, using appropriate strategies, in various contexts	Chapter 4, Lesson 1-2
	B2.8 compare proportional situations and determine unknown values in proportional situations, and apply proportional reasoning to solve problems in various contexts	Chapter 8, Lesson 1

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Strand C: Algebra		
By the end of Grade 8, students will:		
C1. Patterns and Relationships identify, describe, extend, create, and make predictions about a variety of patterns, including those found in real-life contexts	Patterns C1.1 identify and compare a variety of repeating, growing, and shrinking patterns, including patterns found in real-life contexts, and compare linear growing and shrinking patterns on the basis of their constant rates and initial values	Chapter 6, Lesson 1*

	C1.2 create and translate repeating, growing, and shrinking patterns involving rational numbers using various representations, including algebraic expressions and equations for linear growing and shrinking patterns	Chapter 6, Lesson 2*
	C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in growing and shrinking patterns involving rational numbers, and use algebraic representations of the pattern rules to solve for unknown values in linear growing and shrinking patterns	Chapter 6, Lesson 3*
	C1.4 create and describe patterns to illustrate relationships among rational numbers	Chapter 6, Lesson 4*
C2. Equations and Inequalities demonstrate an understanding of variables, expressions, equations, and inequalities, and apply this understanding in various contexts	Variables and Expressions C2.1 add and subtract monomials with a degree of 1, and add binomials with a degree of 1 that involve integers, using tools	Chapter 5, Lesson 1
	C2.2 evaluate algebraic expressions that involve rational numbers	Chapter 5, Lesson 3
	Equalities and Inequalities C2.3 solve equations that involve multiple terms, integers, and decimal numbers in various contexts, and verify solutions	Chapter 5, Lesson 4-5
	C2.4 solve inequalities that involve integers, and verify and graph the solutions	Chapter 5, Lesson 6*
C3. Coding	Coding Skills C3.1 solve problems and create computational representations of mathematical situations by writing and executing efficient code, including code that involves conditional statements and other control structures	Coding Toolkit
	C3.2 read and alter existing code, including code that involves conditional statements and other control structures, and describe how changes to the code affect the outcomes and the efficiency of the code	Coding Toolkit
C4. Mathematical Modelling apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations <i>This overall expectation has no specific expectations. Mathematical modelling is an iterative and interconnected process that is applied to various contexts, allowing students to bring in learning from other strands. Students' demonstration of the process of mathematical modelling, as they apply concepts and skills learned in other strands, is assessed and evaluated.</i>		

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Strand D: Data		
By the end of Grade 8, students will:		
D1. Data Literacy manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life	Data Collection and Organization D1.1 identify situations involving one-variable data and situations involving two-variable data, and explain when each type of data is needed	Chapter 15, Lesson 1
	D1.2 collect continuous data to answer questions of interest involving two variables, and organize the data sets as appropriate in a table of values	Chapter 15, Lesson 2
	Data Visualization D1.3 select from among a variety of graphs, including scatter plots, 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 graphs	Chapter 15, Lesson 3
	D1.4 create an infographic about a data set, representing the data in appropriate ways, including in tables and scatter plots, and incorporating any other relevant information that helps to tell a story about the data	Chapter 15, Lesson 4*
	Data Analysis D1.5 use mathematical language, including the terms “strong”, “weak”, “none”, “positive”, and “negative”, to describe the relationship between two variables for various data sets with and without outliers	Chapter 15, Lesson 1
	D1.6 analyse different sets of data presented in various ways, including in scatter plots and in misleading graphs, by asking and answering questions about the data, challenging preconceived notions, and drawing conclusions, then make convincing arguments and informed decisions	Chapter 15, Lesson 1, 4
D2. Probability describe the likelihood that events will happen, and use that information to make predictions	Probability D2.1 solve various problems that involve probability, using appropriate tools and strategies, including Venn and tree diagrams	Chapter 16, Lesson 1*
	D2.2 determine and compare the theoretical and experimental probabilities of multiple independent events happening and of multiple dependent events happening	Chapter 16, Lesson 1*

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Strand E: Spatial Sense		
By the end of Grade 8, students will:		
E1. Geometric and Spatial Reasoning describe and represent shape, location, and movement by applying geometric properties and spatial relationships in order to navigate the world around them	Geometric Reasoning E1.1 identify geometric properties of tessellating shapes and identify the transformations that occur in the tessellations	Chapter 14, Lesson 1
	E1.2 make objects and models using appropriate scales, given their top, front, and side views or their perspective views	Chapter 13, Lesson 1*
	E1.3 use scale drawings to calculate actual lengths and areas, and reproduce scale drawings at different ratios	Chapter 8, Lesson 3
	Location and Movement E1.4 describe and perform translations, reflections, rotations, and dilations on a Cartesian plane, and predict the results of these transformations	Chapter 14, Lesson 2
E2. Measurement compare, estimate, and determine measurements in various contexts	The Metric System E2.1 represent very large (mega, giga, tera) and very small (micro, nano, pico) metric units using models, base ten relationships, and exponential notation	Chapter 2, Lesson 2
	Lines and Angles E2.2 solve problems involving angle properties, including the properties of intersecting and parallel lines and of polygons	Chapter 11, Lesson 1-2

	Length, Area, and Volume E2.3 solve problems involving the perimeter, circumference, area, volume, and surface area of composite two-dimensional shapes and three-dimensional objects, using appropriate formulas	Chapter 9, Lesson 1* Chapter 10, Lesson 1*
	E2.4 describe the Pythagorean relationship using various geometric models, and apply the theorem to solve problems involving an unknown side length for a given right triangle	Chapter 12, Lesson 1-2

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Strand F: Financial Literacy		
By the end of Grade 8, students will:		
F1. Money and Finances demonstrate the knowledge and skills needed to make informed financial decisions	Money Concepts F1.1 describe some advantages and disadvantages of various methods of payment that can be used when dealing with multiple currencies and exchange rates	TBC
	Financial Management F1.2 create a financial plan to reach a long-term financial goal, accounting for income, expenses, and tax implications	TBC
	F1.3 identify different ways to maintain a balanced budget, and use appropriate tools to track all income and spending, for several different scenarios	TBC
	F1.4 determine the growth of simple and compound interest at various rates using digital tools, and explain the impact interest has on long-term financial planning	TBC
	Consumer and Civic Awareness F1.5 compare various ways for consumers to get more value for their money when spending, including taking advantage of sales and customer loyalty and incentive programs, and determine the best choice for different scenarios	TBC
	F1.6 compare interest rates, annual fees, and rewards and other incentives offered by various credit card companies and consumer contracts to determine the best value and the best choice for different scenarios	TBC

*to be confirmed (manuscript still in development)