

Grade 9

Ontario Math Curriculum

The Ontario math curriculum is organized in five major areas of knowledge and skills. The five areas are as follows: A. Social-Emotional Learning (SEL) Skills in Mathematics and The Mathematical Processes; B. Number; C. Algebra; D. Data; E. Spatial Sense; F. Financial Literacy

Curriculum Expectations

Key Concepts

AA. Social-Emotional Learning Skills

1. develop and explore a variety of social-emotional learning skills in a context that supports and reflects this learning in connection with the expectations across all other strands

*collaborate
well-being
self-aware
identity
communicate*

A. Mathematical Thinking and Making Connections

1. apply the mathematical processes to develop a conceptual understanding of, and procedural fluency with, the mathematics they are learning

2. make connections between mathematics and various knowledge systems, their lived experiences, and various real-life applications of mathematics, including careers

<i>problem solving</i>	<i>connecting</i>	<i>knowledge systems</i>
<i>reasoning</i>	<i>communicating</i>	
<i>proving</i>	<i>representing</i>	
<i>reflecting</i>	<i>selecting</i>	
<i>tools</i>	<i>strategies</i>	

B. Development of Numbers and Number Sets

1. Development of Numbers and Number Sets: demonstrate an understanding of the development and use of numbers, and make connections between sets of numbers

2. Power: represent numbers in various ways, evaluate powers, and simplify expressions by using the relationships between powers and their exponents

3. Number Sense and Operations: apply an understanding of rational numbers, ratios, rates, percentages, and proportions, in various mathematical contexts, and to solve problems

<i>number system</i>	<i>rational numbers</i>
<i>patterns</i>	<i>ratios</i>
<i>density</i>	<i>rates</i>
<i>infinity</i>	<i>percentages</i>
<i>simplify</i>	<i>proportions</i>
<i>exponents</i>	<i>integers</i>
<i>power</i>	<i>fractions</i>
<i>expressions</i>	<i>mixed numbers</i>

C. Algebra

<p>1. Algebraic Expressions and Equations: demonstrate an understanding of the development and use of algebraic concepts and of their connection to numbers, using various tools and representations</p> <p>2. Coding: apply coding skills to represent mathematical concepts and relationships dynamically, and to solve problems, in algebra and across the other strands</p> <p>3. Application of Relations: represent and compare linear and non-linear relations that model real-life situations, and use these representations to make predictions</p> <p>4. Characteristics of Relations: demonstrate an understanding of the characteristics of various representations of linear and non-linear relations, using tools, including coding when appropriate</p>	<p><i>algebraic expressions</i> <i>algebraic equations</i> <i>coding</i> <i>variables</i> <i>inequalities</i> <i>linear</i> <i>non-linear relations</i></p>	<p><i>rates of change</i> <i>pattern</i> $y = ax + b$ <i>interpretation</i> <i>constants</i> <i>slopes</i> <i>x-intercepts</i> <i>y-intercepts</i></p>
<h2>D. Data</h2>		
<p>1. Collection, Representation, and Analysis of Data: describe the collection and use of data, and represent and analyse data involving one and two variables</p> <p>2. Mathematical Modelling: apply the process of mathematical modelling, using data and mathematical concepts from other strands, to represent, analyse, make predictions, and provide insight into real-life situations</p>	<p><i>analyze</i> <i>scatter plot</i> <i>correlation</i> <i>regression</i></p>	<p><i>mathematical modelling</i> <i>assumptions</i></p>
<h2>E. Geometry and Measurement</h2>		
<p>1. Geometric and Measurement Relationships: demonstrate an understanding of the development and use of geometric and measurement relationships, and apply these relationships to solve problems, including problems involving real-life situations</p>	<p><i>geometric</i> <i>measurement</i> <i>3-dimensional</i> <i>triangle</i></p>	<p><i>composite shapes</i> <i>volume</i> <i>surface area</i> <i>circle</i> <i>side-length</i></p>
<h2>F. Financial Literacy</h2>		
<p>1. Financial Decisions: demonstrate the knowledge and skills needed to make informed financial decisions</p>	<p><i>financial situation</i> <i>appreciation</i> <i>depreciation</i> <i>budget</i></p>	<p><i>interest rates</i> <i>borrowing time</i> <i>down payments</i></p>

Adapted from *The Ontario curriculum, Grades 9: Mathematics (2020)*. https://assets-us-01.kc-usercontent.com/fbd574c4-da36-0066-a0c5-849ffb2de96e/3f76051d-897c-45f4-bc9b-86bc3934b6b9/The%20Ontario%20Curriculum%20-%20Mathematics%20Grade%209%20De-streamed%20Course%202021_with%20Teacher%20Supports.pdf

