

**Grade 8 Mathematics Year Plan**

**Structure: 3 Terms (approx. 10–12 weeks each)**



**Curricular Competencies (Integrated all year)**

*These are embedded in every unit*

<input type="checkbox"/> <b>Reasoning &amp; Analyzing</b> <ul style="list-style-type: none"> <li>○ Use logic and patterns</li> <li>○ Make generalizations and justify thinking</li> </ul>	<input type="checkbox"/> <b>Understanding &amp; Solving</b> <ul style="list-style-type: none"> <li>○ Apply multiple strategies</li> <li>○ Solve contextual and non-routine problems</li> </ul>
<input type="checkbox"/> <b>Communicating &amp; Representing</b> <ul style="list-style-type: none"> <li>○ Use math vocabulary, diagrams, and models</li> <li>○ Represent ideas in multiple ways</li> </ul>	<input type="checkbox"/> <b>Connecting &amp; Reflecting</b> <ul style="list-style-type: none"> <li>○ Connect math to real-life contexts</li> <li>○ Reflect on strategies and learning</li> </ul>



**TERM 1 (Sept–Dec) : Number Sense & Foundations of Algebra**

**1. Operations with Integers**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Model integer operations (number lines, chips)</li> <li>• Justify rules using patterns</li> <li>• Solve contextual problems (temperature, debt)</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Addition, subtraction, multiplication, division of integers</li> <li>• Order of operations</li> </ul>
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**2. Rational Numbers**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Represent rational numbers in multiple forms</li> <li>• Apply operations in real-world contexts (shopping, discounts)</li> <li>• Estimate and check reasonableness</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Fractions, decimals, percents</li> <li>• Conversions and operations with rational numbers</li> </ul>
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**3. Percents & Financial Literacy (Intro)**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Solve real-life problems</li> <li>• Interpret percent relationships</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Percent calculations (increase, decrease)</li> <li>• Simple financial contexts</li> </ul>
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**4. Introduction to Algebra**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Translate words into expressions</li> <li>• Represent relationships symbolically</li> <li>• Explain meaning of variables</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Variables and expressions</li> <li>• Evaluating expressions</li> </ul>
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**End of Term Assessment Ideas:**

Multi-step problem solving task (real-world context)	Portfolio of number sense strategies
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**TERM 2 (Jan–March) : Algebra, Patterns, and Geometry**

**5. Linear Relationships & Patterns**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Identify and extend patterns</li> <li>• Represent relationships (tables, graphs, equations)</li> <li>• Make predictions</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Patterns (numeric and visual)</li> <li>• Graphing linear relations</li> <li>• Understanding slope (informal)</li> </ul>
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**6. Solving Equations**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Model equations conceptually (balance model)</li> <li>• Justify solution steps</li> <li>• Check solutions</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• One-step linear equations</li> <li>• Introduction to multi-step equations</li> </ul>
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**7. Geometry: Transformations**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Describe transformations using precise language</li> <li>• Connect transformations to patterns and art</li> <li>• Represent transformations graphically</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Translations, rotations, reflections</li> <li>• Symmetry</li> </ul>
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**8. Geometry: Measurement**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Apply formulas meaningfully</li> <li>• Solve real-world measurement problems</li> <li>• Estimate before calculating</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Area, volume, surface area (prisms, cylinders)</li> </ul>
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**End of Term Assessment Ideas:**

Project: Design a structure (volume & surface area)	Linear Patterns investigation task
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**Curricular Competencies (Integrated all year)**

*These are embedded in every unit*

<p><input type="checkbox"/> <b>Reasoning &amp; Analyzing</b></p> <ul style="list-style-type: none"> <li>○ Use logic and patterns</li> <li>○ Make generalizations and justify thinking</li> </ul>	<p><input type="checkbox"/> <b>Understanding &amp; Solving</b></p> <ul style="list-style-type: none"> <li>○ Apply multiple strategies</li> <li>○ Solve contextual and non-routine problems</li> </ul>
<p><input type="checkbox"/> <b>Communicating &amp; Representing</b></p> <ul style="list-style-type: none"> <li>○ Use math vocabulary, diagrams, and models</li> <li>○ Represent ideas in multiple ways</li> </ul>	<p><input type="checkbox"/> <b>Connecting &amp; Reflecting</b></p> <ul style="list-style-type: none"> <li>○ Connect math to real-life contexts</li> <li>○ Reflect on strategies and learning</li> </ul>

**TERM 3 (April–June) : Data, Probability, and Financial Literacy**

**9. Data Analysis**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Interpret data critically</li> <li>• Choose appropriate representations</li> <li>• Draw conclusions and justify reasoning</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Graphs (bar, line, circle graphs)</li> <li>• Measures of central tendency (mean, median)</li> </ul>
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**10. Probability**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Predict outcomes</li> <li>• Compare theoretical vs experimental probability</li> <li>• Use fractions, decimals, percents</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Theoretical probability</li> <li>• Simple probability experiments</li> </ul>
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**11. Financial Literacy (Expanded)**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Solve real-life financial problems</li> <li>• Analyze spending decisions</li> <li>• Reflect on financial choices</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Budgeting</li> <li>• Simple interest</li> <li>• Income vs expenses</li> </ul>
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**12. Consolidation & Review**

<p><b>Competencies:</b></p> <ul style="list-style-type: none"> <li>• Apply multiple concepts together</li> <li>• Communicate reasoning clearly</li> <li>• Reflect on growth</li> </ul>	<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Integrated problem solving</li> <li>• Cross-strand and cross-curricular applications</li> </ul>
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**End of Year Assessment Ideas:**

<ul style="list-style-type: none"> <li>• Financial literacy project (budget plan)</li> </ul>	<ul style="list-style-type: none"> <li>• Cumulative performance task, ex. Planning the end of year Grade 8 Celebration</li> </ul>
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**Curricular Competencies (Integrated all year)**

*These are embedded in every unit*

<p><input type="checkbox"/> <b>Reasoning &amp; Analyzing</b></p> <ul style="list-style-type: none"> <li>○ Use logic and patterns</li> <li>○ Make generalizations and justify thinking</li> </ul>	<p><input type="checkbox"/> <b>Understanding &amp; Solving</b></p> <ul style="list-style-type: none"> <li>○ Apply multiple strategies</li> <li>○ Solve contextual and non-routine problems</li> </ul>
<p><input type="checkbox"/> <b>Communicating &amp; Representing</b></p> <ul style="list-style-type: none"> <li>○ Use math vocabulary, diagrams, and models</li> <li>○ Represent ideas in multiple ways</li> </ul>	<p><input type="checkbox"/> <b>Connecting &amp; Reflecting</b></p> <ul style="list-style-type: none"> <li>○ Connect math to real-life contexts</li> <li>○ Reflect on strategies and learning</li> </ul>

## Overview of Math 8

Term	Units	Focus
Term 1	Integers, Rational Numbers, Intro Algebra	Number Sense
Term 2	Patterns, Equations, Geometry	Algebra & Spatial Reasoning
Term 3	Data, Probability, Financial Literacy	Application & Analysis



### Curricular Competencies (Integrated Throughout)

*These are embedded across all units*

<input type="checkbox"/> <b>Understanding &amp; Solving</b> <ul style="list-style-type: none"> <li>Apply multiple strategies</li> <li>Solve contextual and complex problems</li> <li>Develop, test, and revise solutions</li> </ul>	<input type="checkbox"/> <b>Reasoning &amp; Analyzing</b> <ul style="list-style-type: none"> <li>Use logic, patterns, and relationships</li> <li>Analyze and justify mathematical thinking</li> <li>Extend patterns and test conjectures</li> </ul>
<input type="checkbox"/> <b>Communicating &amp; Representing</b> <ul style="list-style-type: none"> <li>Use mathematical language and symbols</li> <li>Represent ideas visually, numerically, and algebraically</li> </ul>	<input type="checkbox"/> <b>Connecting &amp; Reflecting</b> <ul style="list-style-type: none"> <li>Connect concepts across strands</li> <li>Apply math to everyday situations</li> <li>Reflect on strategies and reasonableness</li> </ul>

### Possible Progress Update Timeline

Sept. - Oct.*	<p><b>Informal Learning Updates:</b> Can include phone calls, emails, conferences, or other communication methods. They provide timely feedback and help parents and students understand progress without formal documentation.</p> <p>*IEPs are updated and shared with teachers and parents during this window as well.</p>
Nov. – Dec.	<p><b>Written Learning Updates:</b> Must meet specific content requirements and provide a clear, structured summary of student learning. For <b>Grades K-9</b>, these updates use the <b>Provincial Proficiency Scale</b> (Emerging, Developing, Proficient, Extending)</p>
Jan – Feb.	<p><b>Informal Learning Updates:</b> Can include phone calls, emails, conferences, or other communication methods. They provide timely feedback and help parents and students understand progress without formal documentation.</p> <p>Follow-up communication with LST, SBT, as needed</p>
March -Apr.	<p><b>Written Learning Updates:</b> Must meet specific content requirements and provide a clear, structured summary of student learning. For <b>Grades K-9</b>, these updates use the <b>Provincial Proficiency Scale</b> (Emerging, Developing, Proficient, Extending)</p>
May - June	<p><b>Summary of Learning</b> is completed. This report uses <b>clear and accessible language</b> to describe student achievement and growth, highlighting strengths, areas for improvement, and next steps. For students whose <b>language proficiency affects their ability to demonstrate learning</b>, descriptive feedback is provided alongside proficiency indicators, explaining assessment relative to language goals.</p>