

# Grade 9 Mathematics, MTH1W (De-streamed)

## Course Description: [Grade 9 Mathematics 2021](#)

This course is designed to be inclusive for all students in order to facilitate the transition from the elementary to the secondary level. Students will have opportunities to build a solid foundation in mathematics, broaden their knowledge and skills, and develop their mathematical identity to make informed decisions in choosing future mathematics courses based on their interests, and in support of future post-secondary plans. A strong focus on the 7 mathematical processes include problem solving, reasoning and proving, reflecting, connecting, communicating, representing, and selecting tools and strategies by making connections to their lived experiences and to real-life applications. They will continue to develop critical consciousness of how socio-cultural structures within systems impact individual experiences and opportunities, and to shape their identities as mathematics learners.

## Roles and Responsibilities

### As teachers we:

1. Have high academic expectations of all students and believe that all students are capable math learners,
2. Provide appropriate supports for learning by plan a mathematics program using an asset-based approach that affirms students' identities, reflects their lived experiences, leverages their strengths, and addresses their needs in order to ensure equitable, accessible, and engaging learning opportunities for every student,
3. Provide ongoing meaningful feedback to all students about their mathematics learning and achievement to help to build confidence and provide focused next steps,
4. Support students in developing their ability to solve problems, reason mathematically, and connect the mathematics they are learning to the real world around them, and
5. Communicate with parents and develop partnerships between home or caring adults and school that meet the varied needs of families.

### Students are responsible for:

1. Continual and consistent personal reflection and goal setting,
2. A belief that they are capable of succeeding in mathematics,
3. Developing the skills to persevere when taking on new challenges,
4. Connecting prior experiences, knowledge, skills, and habits of mind to new learning,
5. A willingness to work both independently and collaboratively in an inclusive environment,
6. Dedication to ongoing practice,
7. A willingness and an ability to receive and respond to meaningful feedback and ask questions to clarify understanding, and
8. A willingness to explore new learning in mathematics and share insights and experiences.

### Parents/Guardians are encouraged to:

1. Work together to ensure that they provide a mutually supportive framework,
2. Support their children's mathematics success by engaging and showing an interest in what their learning and finding way to apply what is being learned in class to everyday contexts, and
3. Encouraging them to complete their mathematics tasks, to practice new skills and concepts, to apply new mathematics learning to experiences at home, and to connect mathematical experiences at home to learning at school.

## Assessment & Evaluation: [Growing Success 2010](#)

**70%** Evaluation conducted throughout the course, reflecting on most consistent level of achievement throughout the course, although special consideration should be given to more recent evidence of achievement.

**30%** Based on a final evaluation administered at or towards the end of the course, from one or a combination of the following: an examination, a performance, an essay, and/or another method of evaluation suitable to the course content. The final evaluation allows the student an opportunity to demonstrate comprehensive achievement of the overall expectations for the course.

**Equipment** (Recommended): Computer/Laptop/Chromebook, Internet Access, Calculator, Ruler, Writing Tools, Binder & Notebook

**Extra Help:** Information posted on teacher google classrooms

**Curriculum:** The seven major strands for MTH1W and the overall ministry expectations are summarized below. A more complete description is located at the following [link](#).

By the end of the course students will. . .

**AA. Social-Emotional Learning (SEL) Skills in Mathematics**

- 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

**A. Mathematical Thinking and Making Connections**

- apply the [mathematical processes](#) to develop a conceptual understanding of, and procedural fluency with, the mathematics they are learning;
- make connections between mathematics and various knowledge systems, their lived experiences, and various real-life applications of mathematics, including careers.

**B. Number**

- demonstrate an understanding of the development and use of numbers, and make connections between sets of numbers;
- represent numbers in various ways, evaluate powers, and simplify expressions by using the relationships between powers and their exponents;
- apply an understanding of rational numbers, ratios, rates, percentages, and proportions, in various mathematical contexts, and to solve problems.

**C. Algebra**

- demonstrate an understanding of the development and use of algebraic concepts and of their connection to numbers, using various tools and representations;
- apply coding skills to represent mathematical concepts and relationships dynamically, and to solve problems, in algebra and across the other strands;
- represent and compare linear and non-linear relations that model real-life situations, and use these representations to make predictions;
- demonstrate an understanding of the characteristics of various representations of linear and non-linear relations, using tools, including coding when appropriate

**D. Data**

- describe the collection and use of data, and represent and analyse data involving one and two variables;
- 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.

**E. Geometry and Measurement**

- 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.

**F. Financial Literacy**

- demonstrate the knowledge and skills needed to make informed financial decisions.

## Assessment Strategies

A variety of teaching/assessment strategies to address students' needs will be used during this course. Formative assessments will be ongoing throughout the academic year and students will receive descriptive feedback to help them improve their learning. Levels will be used when assigning marks in this course.

Level	Descriptors
R: not a passable level of achievement	Insufficient demonstration of understanding
1: much below the provincial standard	Limited understanding, weak, lacking purpose
2: approaching the provincial standard	Some understanding, simplistic, somewhat purposeful
3: the provincial standard	Considerable understanding, solid, standard, purposeful, effective
4: surpassing the provincial standard	Consistent, thorough understanding, in depth, insightful to a purpose, efficient

## Evidence of Student Achievement

Students may demonstrate their understanding of the course materials in a wide variety of ways. Evidence of student achievement may come from observations, conversations, and students products. Student products may include assignments, tests, projects, performance tasks, and examinations. A balanced combination of a student's Knowledge and Understanding, Thinking and Inquiry, Communication, and Application will be assessed. These 4 categories will not be separately evaluated. Instead, they will be "considered as interrelated, reflecting the wholeness and interconnectedness of learning." – from the Ontario Ministry of Education curriculum documents.

Source of Evidence	Description	
<b>Observations</b>	The teacher may record evidence of student achievement observed as students work on investigations in class.	
<b>Conversation</b>	The teacher may record evidence of student achievement elicited during a conversation with a student	
<b>P r o d u c t s</b>	<b>Tests</b>	There will be major cycle tests.
	<b>Assignments</b>	Students may complete in-class assignments.
	<b>Tasks</b>	Students may have a chance to demonstrate their creativity, knowledge and understanding of the material through in-class performance tasks.
	<b>Portfolio</b>	Students may have a chance to demonstrate their understanding by performing a task in class that will summarize many strands of the course.
	<b>EQAO</b>	Students will write the provincial EQAO examination at the end of the semester, but will not be included as part of their final grade.