# Mathematics, Grade 9 · MTH1W

**Academic**

*The Ontario Curriculum Mathematics 2021*

**Mathematics • Malvern C.I. • Toronto District School Board**
**Assistant Curriculum Leader:** Elizabeth Barsby
**Course developed by:** Do Christian, Fullbrook Ashley and Pytlovana Tetyana, September 2021
**Credit Value**: 1

## Course Content

**Description**

*This course enables students to consolidate, and continue to develop, an understanding of mathematical concepts related to number sense and operations, algebra, measurement, geometry, data, probability, and financial literacy. Students will use mathematical processes, mathematical modelling, and coding to make sense of the mathematics they are learning and to apply their understanding to culturally responsive and relevant real-world situations. Students will continue to enhance their mathematical reasoning skills, including proportional reasoning, spatial reasoning, and algebraic reasoning, as they solve problems and communicate their thinking.*

**Prerequisite**

None

**Resource Materials**

- *Principles of Mathematics 9, McGraw-Hill Ryerson 2008 plus other assorted handouts*

**Overall Goals**

By the end of this course, students will:

- Apply the mathematical processes to develop a conceptual understanding of, and procedural fluency with, the mathematics they are learning.
- Demonstrate an understanding of the development and use of numbers and make connections between sets of numbers.
- Represent 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.
- 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 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 where appropriate.
- Describe the collection and use of data, and represent and analyze data involving one and two variables.
- Apply the process of mathematical modelling, using data and mathematical concepts from other strands, to represent, analyze, make predictions, and provide insight into real-life situations.
- 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.
- demonstrate the knowledge and skills needed to make informed financial decisions.

| | |
|---|---|
| **Strands** | • Mathematical Thinking and Making Connections<br>• Number<br>• Algebra<br>• Data<br>• Geometry and Measurement<br>• Financial Literacy |

## Assessment, Evaluation and Reporting

| | |
|---|---|
| **Strategies** | • Students will have the opportunity to learn and be assessed before evaluations.<br>• Tests, quizzes, in-class activities, tasks and assignments will be used. |

| **Achievement Category Weightings** | Knowledge / Understanding | Thinking | Communication | Application |
|---|---|---|---|---|
| | 35% | 15% | 15% | 35% |

| | |
|---|---|
| **Term Grades throughout the Year** | • The grade for each reporting period is based on evaluations that have been conducted to that point in the course, and will be preliminary and tentative. They will be based on the most consistent level of achievement to that point in time, but some of the overall expectations, strands, and units will not have been addressed. The student's grades will most likely change when his/her entire work is evaluated at the end of the course. |
| **Course Work 85%** | • Components of Evaluations: (refer to strategies)<br>• Students need to demonstrate achievement of overall course expectations<br>• Missed or incomplete assignments will have an impact on the final grade when a significant number of curriculum expectations have not been evaluated. |
| **Course-Culminating Activities 15%** | • January<br>• Summative Evaluations will consist of at least two parts.<br>• All students must take part in summative evaluations. |
| **Learning Skills** | • Learning skills play a critical role in the achievement of curriculum expectations and student success.<br>• Students are expected to be academically honest by submitting their own original work. The marks they receive are intended to reflect their own academic achievement. |

## Communication

| | |
|---|---|
| **Consultation** | • The phone number for the mathematics department at Malvern is:<br>(416)393-1480 extension 20080 |
| **Help** | • Extra help is provided by the classroom teacher.<br>• Additional resources are available online.<br>Mathify App: https://www.tvomathify.com/<br><br>This site is available to students, parents, and teachers in our board. This free on-line resource focuses on one-on-one, confidential, real-time math tutoring for students in Grades 7 to 11. The tutors are certified Ontario math teachers available Sunday to Thursday, 5:30 pm to 9:30 pm |