

BACKGROUNDER

Modernizing Grade 9 Math Education in Ontario Schools

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[Education](#)

Ontario's new Grade 9 math course is part of the province's four-year mathematics strategy to ensure students have the skills they need for the future. Grade 9 math was last updated in 2005. There has been a lot of change in the past 16 years that is being incorporated into the new course.

The introduction of a new math course for September 2021 is also the first step toward ending streaming of Grade 9 courses, through a phased approach, so that all students are better supported to succeed in school and beyond.

About the New Grade 9 Math Course

The new course, which has the course code of MTH1W, will be available to all students and focuses on key mathematics concepts and skills, and:

- Replaces previous Grade 9 math courses last updated in 2005, including: applied (MFM1P) and academic (MPM1D) and the 2006 transfer course (MPM1H).
- Includes relevant real-life examples that help connect math to everyday life. The previous curriculum was released prior to the launch of the first iPhone and Twitter. This modernized update ensures relevance to students' lived experiences and today's job market with an emphasis on practical life skills.
- Builds on learning from Grade 8 to help prepare students for more advanced math to allow students to pursue any postsecondary pathway they choose, including careers in the skilled trades.
- Includes new learning, such as coding, data literacy, mathematical modelling and financial literacy.
- Includes tools and strategies to help students develop confidence, acquire a positive attitude and think critically.
- Has been informed by extensive research, advice and guidance from experts, educators, stakeholders, and industry partners. This course will equip all students with the knowledge and skills they need to prepare for subsequent secondary courses.

What Students Will Learn

The course is organized into the following seven areas:

Financial Literacy

Students will analyze a variety of financial situations to explain how mathematics can be applied; examine how interest rates and other factors can impact purchases; and solve financial problems as well as learn how circumstances can affect a budget.

Mathematical Thinking and Making Connections

Students will use problem-solving, communication, reasoning, representation and various tools and strategies as they continue to develop their mathematical thinking. Students will connect the mathematics they are learning with their lived experiences, various knowledge systems and real-life applications, including careers.

Numbers

Students will learn to work with different sets of numbers and understand different ways numbers can be written, including powers with positive and negative exponents. Students will extend their learning about fractions, decimal numbers and integers. They will also extend their knowledge and skills of percentages, ratios, rates and proportions to make connections to real-life examples, such as price comparisons and the growth or decline of food/water resources.

Algebra

Students will work with algebraic expressions and equations, apply coding skills to understand complex mathematics and to make predictions, learn about linear and non-linear relations, make connections between growing and shrinking patterns, and solve problems with various rates of change to make sense of real-life situations, like plant growth, rates of pollution, motion of trains/planes/skateboards, etc.

Data

Students will examine the collection, use and storage of data, including how data is represented and used to inform decisions, and build on their understanding of data to represent and analyze real-life situations, such as sports analysis or change in animal migration patterns. Students will also use mathematical modelling to answer questions of interest and make predictions, like the impact of social media on the economy.

Geometry and Measurement

Students will examine geometric properties and their real-life applications, such as architecture, construction and design. Students will learn about the development and use of units of measure and measurement tools by various cultures, examine the relationships between cones and cylinders and pyramids and prisms, and solve real-life problems that involve the application of perimeter, area, surface area and volume, such as planning community gardens and designing packaging.

Social-Emotional Learning Skills in Mathematics

Students will explore culturally relevant and responsive social-emotional learning skills, such as recognizing sources of stress and identifying supports that aid perseverance when solving math problems. Social emotional learning skills offer opportunities to build healthy relationships and develop a healthy mathematical identity.

Benefits of De-Streaming

Ending early streaming in secondary school means that Grade 9 students will continue to learn together in the same class. This will keep options open for all students to pursue postsecondary education and training in any pathway they choose, including skilled trades.

Research shows that students living in low-income households, as well as students who are Black, Indigenous, racialized, students with disabilities and students with special education needs, are more likely to be placed in the applied stream, which can limit options and create barriers after secondary school. Ending early streaming allows all students to learn in groups with a range of learning, interests and needs, where teachers have high expectations of success for everyone.

Implementation Supports

The ministry has been working with school boards and community partners over the Winter to prepare for de-streaming and is supporting the implementation of the new math curriculum by providing:

- Educator training, through webinars and modules beginning this spring and continuing throughout the upcoming school year, as well as mandatory Professional Activity days focused on anti-racism, anti-discrimination and mathematics.
- \$300,000 to math subject division associations and principal councils to provide classroom-ready resources and training opportunities for teachers and principals.
- \$40 million to school boards to hire board and school math lead positions to provide professional learning supports for teachers and principals.
- \$4.6 million for tutoring services for students to receive one-on-one, online support from Ontario-certified teachers through Mathify and Eurêka! School boards will also receive \$8.4 million through Grants for Student Needs to provide tutoring programs that best meet the needs of their students.

The Ontario government also announced additional targeted investments to support all students to improve math performance, with an emphasis on under-represented students. Those investments include:

- \$2.9 million for school boards for the Targeted Math and Literacy Support Focused on De-streaming funding to prepare students for their transition to the new de-streamed Grade 9 math course and to address learning loss.
- \$550.5 million, through the Learning Opportunities Grant, to fund a range of programs that will help students who are at greater risk of poor academic achievement. This will include teacher supports and tutoring to help improve outcomes for students who face barriers to consistent success.

Additional Resources

- [Modernized Math Course Prepares Students for Jobs of the Future and Life Skills](#)
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