

Curriculum at a Glance
Mathematics
Grade 8 - Course 3 (on level math)

Mathematics is a vigorous and growing discipline – a universal language useful for communication and research in other disciplines. We want our students to reason and communicate mathematically, to be mathematical problem-solvers, to value mathematics and to feel confident in their ability to use mathematics. Throughout the school year, math teachers at MMS foster and emphasize the following mathematical practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Grade 8 Course 3 is aligned with current Grade 8 Connecticut Common Core Standards. This course is designed to prepare students to take Algebra in Grade 9.

Unit Name	Content
Solving Linear Equations	Solving simple equations Solving multi-step equations Solving equations with variables on both sides Rewriting equations and formulas.
Trans-formations	Exploring congruent figures Translations Reflections Rotations Similar figures Perimeter and area of similar figures Dilations

Angles and Triangles	Parallel lines and transversals Angles of triangles Angles of polygons Using similar triangles
Graphing and Writing Linear Equations	Graphing linear equations. Slope of a line Graphing proportional relationships Graphing linear equations in slope-intercept form Graphing linear equations in standard form Writing equations in slope-intercept form Writing equations in point-slope form
Systems of Linear Equations	Solving linear systems by graphing Solving linear systems by substitution Writing linear systems from real life situations Solving linear systems by elimination Solving special linear systems (no solution and infinitely many solutions)
Relations and Functions	Relations and functions Representations of functions Linear functions Comparing linear and nonlinear functions Analyzing and Sketching Graphs
Data Analysis and Displays	Scatterplots Lines of best fit Two way tables Choosing a data display
Properties of Exponents	Powers and exponents Product of powers property Quotient of powers property Zero and negative exponents Scientific notation Operations in scientific notation
Real Numbers and the Pythagorean Theorem	Finding square roots Finding cube roots The Pythagorean Theorem Approximate square roots Using the Pythagorean Theorem

Volume	Volume of cylinder Volume of cones Volumes of spheres Volume of composite solids
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