

Curriculum at a Glance
Mathematics
Grade 6 - Course 3 (above 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 6 Course 3 includes all units of study from Grade 6 Course 1, Grade 7 Course 2, and Grade 8 Course 3. This course is designed to prepare students to take Algebra I in Grade 7.

† Indicates units that include Grade 6 Standards

Unit Name	Content
Numerical Expressions and Integers†	Prime Factorization Divisibility Rules, Prime and Composite Numbers Greatest Common Factor Least Common Multiple Compare and Order Integers and Absolute Value Numbers Graph Ordered Pairs in all Four Quadrants of the Coordinate Plane Describe Distances Between Numbers Use and Justify Rules for Integer Operations Find Absolute Value of Integers Add, Subtract, Multiply, and Divide Integers and Rational Numbers Convert a Rational Number to a Decimal Using Long Division.

Solving Equations and Inequalities†	<p>Write, Evaluate and Simplify Algebraic Expressions</p> <p>Find the GCF in Algebraic Expressions</p> <p>Commutative, Associative, and Distributive Properties</p> <p>Add, Subtract, Factor, and Expand Linear Expressions with Rational Coefficients.</p> <p>Simple and Multi-Step Equations/Inequalities Involving Rational Numbers</p> <p>Determine if a Value is a Solution.</p> <p>Show that a Linear Equation in One Variable has One, Infinitely many, or No Solution</p>
Ratio, Proportions and Percents†	<p>Writing and Using Ratios, Rates and Unit Rates</p> <p>Ratio Tables</p> <p>Comparing Ratios and Proportions</p> <p>Writing and Solving Proportions</p> <p>Find and Interpret the Slope of Lines</p> <p>Direct Variation</p> <p>Convert from Decimals and Fractions to Percents</p> <p>Compare and Order Fractions, Decimals and Percents</p> <p>Solve Percent Problems with Proportions and Equations</p> <p>Percent of Increase and Decrease</p> <p>Discount and Markup</p> <p>Simple Interest</p>
Geometry†	<p>Supplementary, Complementary, Vertical, Adjacent, Alternate Interior and Corresponding Angles.</p> <p>Find Measures of Angles and the Sum of the Angles of Polygons</p> <p>Similar Triangles</p> <p>Polygons in the Coordinate Plane</p> <p>Areas of Triangles and Special Quadrilaterals</p> <p>Scale Drawings</p> <p>Circumference and Area of circles.</p> <p>Perimeters and Areas of Composite Two-Dimensional Figures, Including Semi-circles.</p> <p>Nets and Surface Areas of Right Prisms, Pyramids and Cylinders</p> <p>Volumes of Objects Composed of Right Prisms, Pyramids, and Cylinders.</p> <p>Find Volumes of Objects Composed of Cones and Spheres</p> <p>Describe the Cross Sections of Three-Dimensional Figures.</p>

<p>Probability and Statistics†</p>	<p>Answering Statistical Questions and using Dot Plots Measures of Center; Mean, Median, and Mode Measures of Variation Mean Absolute Deviation Stem and Leaf Plot Histograms Shapes of Distribution Box and Whisker Plots Outcomes and Events Probability Experimental and Theoretical Probability Compound Events Independent and Dependent events</p>
<p>Graphing and Writing Linear Equations</p>	<p>Graph Linear Equations Slope of a Line Graph Proportional Relationships Slopes of Parallel and Perpendicular Lines Graph Linear Equations in Slope-Intercept and Standard Form Writing Equations in Slope-Intercept and Point-Slope Form</p>
<p>Real Numbers and the Pythagorean Theorem</p>	<p>Square Roots Approximating Square Roots The Pythagorean Theorem Apply the Pythagorean Theorem</p>
<p>Exponents and Scientific Notation</p>	<p>Exponents (all operations) Zero and Negative Exponents Scientific Notation</p>
<p>Transformations</p>	<p>Translations Reflections Rotations Dilations</p>