

# All Things Algebra®

# MATH 7 CURRICULUM

## Unit 1: Number Operations

- Integers
- Adding & Subtracting Integers
- Multiplying & Dividing Integers
- Absolute Value
- Simplify Fractions
- Convert between Mixed and Improper Form
- Adding & Subtracting Fractions
- Multiplying & Dividing Fractions
- Fraction/Decimal/Percent Conversion
- Exponents
- Perfect Squares & Square Roots
- Scientific Notation (positive exponents only)
- Comparing & Ordering Numbers

## Unit 2: Expressions

- Order of Operations
- Evaluating Expressions
- Translating Expressions
- Combining Like Terms
- Distributive Property
- Simplify Expressions (Distribute & Combine)
- Adding & Subtracting Expressions
- Simplify vs. Factor
- \*Multiplying Monomials (Product Rule)
- \*Dividing Monomials (Quotient Rule)
- \*Powers of Monomials (Power Rule)
- Properties
- \*Positive exponents only.

## Unit 3: Equations & Inequalities

- One-Step Equations (Addition/Subtraction)
- One-Step Equations (Multiplication/Division)
- Rational Equations
- Two-Step Equations
- Multi-Step Equations
- Variables on Both Sides
- Translating Equations
- Equation Word Problems
- Translating & Writing Inequalities
- Graphing Inequalities
- One-Step Inequalities
- Two-Step Inequalities
- Inequality Word Problems

## Unit 4: Ratio, Proportion, and Percent

- Ratios, Rates, Unit Rates
- Proportional vs. Nonproportional Relationships
- Solving Proportions
- Proportion Word Problems
- Customary/Metric System Conversions
- Scale Drawings and Models
- Indirect Measurement
- Similar Figures
- Percent Proportion
- Percent Equation
- Discount, Mark-Up, Sales Tax, Tip
- Percent of Change
- Simple Interest

<b>Unit 5: Functions and Graphing</b>	<b>Unit 6: Introduction to Geometry</b>
<ul style="list-style-type: none"> <li>• Parts of the Coordinate Plane</li> <li>• Graphing Relations</li> <li>• Graphing Functions by Table</li> <li>• Multiple Representations: Tables, Graphs, Equations, Words</li> <li>• Slope from a Graph</li> <li>• Slope-Intercept Form</li> <li>• Slope-Intercept Form Applications</li> <li>• Proportional Relationships (tables, graphs, equations)</li> </ul>	<ul style="list-style-type: none"> <li>• Types of Angles</li> <li>• Vertical &amp; Adjacent Angles</li> <li>• Complementary &amp; Supplementary Angles</li> <li>• Classifying Triangles</li> <li>• Triangle Sum Theorem</li> <li>• Constructing Triangles</li> <li>• Properties of Quadrilaterals</li> <li>• Classifying Quadrilaterals</li> <li>• Congruent Polygons</li> <li>• Reflections</li> <li>• Translations</li> </ul>
<b>Unit 7: Measurement (Area and Volume)</b>	<b>Unit 8: Probability and Statistics</b>
<ul style="list-style-type: none"> <li>• Perimeter &amp; Area of Plane Figures</li> <li>• Area &amp; Circumference of Circles</li> <li>• Area &amp; Perimeter of Composite Figures</li> <li>• Surface Area of Rectangular and Triangular Prisms (nets and formulas)</li> <li>• Surface Area of Cylinders (nets and formula)</li> <li>• Volume of Rectangular and Triangular Prisms</li> <li>• Volume of Cylinders</li> <li>• Surface Area &amp; Volume Applications</li> </ul>	<ul style="list-style-type: none"> <li>• Outcomes &amp; Events</li> <li>• Theoretical Probability</li> <li>• Experimental Probability</li> <li>• Tree Diagrams</li> <li>• Fundamental Counting Principle</li> <li>• Compound Probability (independent events only)</li> <li>• Measures of Center &amp; Range</li> <li>• Dot Plots</li> <li>• Stem-and-Leaf Plots</li> <li>• Histograms</li> <li>• Box-and-Whisker Plots</li> </ul>