

## Junior High Mathematics – Curriculum Overview

	<b>Math 6</b>	<b>Math 7</b>	<b>Math 8</b>	<b>Pre-Algebra 6-7</b>	<b>Algebra 7-9</b>	<b>Geometry 8-10</b>
<b>Quarter 1</b>	<ul style="list-style-type: none"> <li>Whole number application</li> <li>Operation sense</li> <li>Decimal concepts</li> <li>Decimal operations</li> <li>Number theory</li> <li>Fraction concepts</li> </ul>	<p><b>Data Analysis</b> Interpreting and making graphs Measures of central tendency</p> <p><b>Algebra – Formulas, Expressions and Equations</b></p> <p><b>Number Sense</b> Operations with decimals GCF and LCM Comparing and ordering fractions</p>	<p><b>Data Analysis</b> Interpreting and making graphs Measures of central tendency Understanding surveys Box-and-Whisker Plots</p> <p><b>Integers</b> Operations with integers Evaluating expressions using integers Scientific Notation</p> <p><b>Algebra: Variables, Expressions and Equations</b></p> <ul style="list-style-type: none"> <li>One and two-step equations</li> </ul>	<p><b>The Tools of Algebra</b></p> <ul style="list-style-type: none"> <li>Verbal expressions</li> <li>Order of operations</li> <li>One-step equations</li> </ul> <p><b>Integers</b></p> <ul style="list-style-type: none"> <li>Operations with integers</li> <li>Evaluating expressions using integers</li> <li>Scientific Notation</li> </ul> <p><b>Rational Numbers</b></p> <ul style="list-style-type: none"> <li>Operations with fractions</li> </ul> <p><b>Expressions and Equations</b></p> <ul style="list-style-type: none"> <li>One and two-step equations</li> </ul>	<p><b>Exps/ Eqns/ Functions</b></p> <ul style="list-style-type: none"> <li>Order of Operations</li> <li>Words into symbols</li> </ul> <p><b>Real Numbers</b></p> <ul style="list-style-type: none"> <li>Absolute Value</li> <li>Distributive Property</li> <li>Combining Like Terms</li> </ul> <p><b>Solving Linear Equations</b></p> <ul style="list-style-type: none"> <li>Multi-Step</li> <li>Ratio's/Rates/Percents</li> </ul> <p><b>Graphing Linear Eqns</b></p> <ul style="list-style-type: none"> <li>Coordinate Plane</li> </ul>	<p><b>Tools of Geometry</b></p> <ul style="list-style-type: none"> <li>Patterns/Points/ Lines, and Planes</li> </ul> <p><b>Reasoning / Proof</b></p> <ul style="list-style-type: none"> <li>Cond/Bi-Cond</li> </ul> <p><b>Parallel &amp; Perpendicular Lines</b></p> <ul style="list-style-type: none"> <li>Transversals</li> <li>Proving LinesParallel</li> </ul> <p><b>Congruent Triangles</b></p> <ul style="list-style-type: none"> <li>SSS/SAS/ASA/AAS</li> <li>CPCTC</li> <li>HL Theorem</li> </ul>
<b>Quarter 2</b>	<ul style="list-style-type: none"> <li>Add and subtract Fractions and Mixed numbers</li> <li>Multiply Fractions and mixed numbers</li> <li>Number relationships</li> <li>Operations with Integers</li> <li>Expressions</li> <li>Addition and Subtraction Equations</li> <li>Multiplication and Division Equations</li> </ul>	<p><b>Operations with Fractions</b></p> <p><b>Geometry and Measurement</b></p> <p><b>Ratios, Rates and Proportions</b></p>	<p><b>Linear Equations</b></p> <ul style="list-style-type: none"> <li>Solutions and graphing of linear equations</li> </ul> <p><b>Ratio and Proportion</b></p> <p><b>Percent</b></p> <ul style="list-style-type: none"> <li>Solving problems using percents</li> <li>Percent change</li> </ul>	<p><b>Multi-step equations and inequalities</b></p> <p><b>Ratio, proportion, and similar figures</b></p> <ul style="list-style-type: none"> <li>Convert ratios</li> <li>Find and use unit rates</li> </ul> <p><b>Percent</b></p> <ul style="list-style-type: none"> <li>Solving problems using percents</li> <li>Percent change</li> </ul>	<ul style="list-style-type: none"> <li>Slope of a Line</li> <li>Slope-Intercept Form</li> </ul> <p><b>Writing Linear Equations</b></p> <ul style="list-style-type: none"> <li>Given Two Points</li> <li>Standard Form</li> <li>Perpendicular Lines</li> </ul> <p><b>Linear Inequalities</b></p> <ul style="list-style-type: none"> <li>Multi-Step</li> <li>"And", "Or," &amp; Abs Value</li> </ul> <p><b>Systems of Equations</b></p> <ul style="list-style-type: none"> <li>Solve by graphing</li> <li>Solve by Substitution</li> <li>Solve by Combinations</li> </ul>	<p><b>Relationships w/in Triangles</b></p> <ul style="list-style-type: none"> <li>Midsegment/Bisector</li> <li>Concurrent Lines</li> </ul> <p><b>Quadrilaterals</b></p> <ul style="list-style-type: none"> <li>Classifying</li> <li>Properties of Parallelograms, Trapezoids, Kites</li> </ul> <p><b>Areas</b></p> <ul style="list-style-type: none"> <li>Parallelograms and Triangles</li> <li>Pythagorean Theorem and its Converse</li> </ul>
<b>Quarter 3</b>	<ul style="list-style-type: none"> <li>Multiplication and Division Equations</li> <li>Geometric Figures</li> <li>Plane figures</li> <li>Solid Figures</li> <li>Congruence's an similarities</li> <li>Ration and proportion</li> <li>Percent and change</li> <li>Probability of simple events</li> <li>Probability of compound events</li> </ul>	<p><b>Proportion, Scale and Similarity</b></p> <ul style="list-style-type: none"> <li>Calculating with scales</li> <li>Converting units and rates</li> <li>Creating and exploring similar figures</li> </ul> <p><b>Percent</b></p> <p><b>Integers</b></p> <ul style="list-style-type: none"> <li>Comparing and ordering integers</li> <li>Operations with integers</li> <li>Coordinate Plane</li> </ul>	<p><b>Number Sense, Rational Numbers, and Irrational Numbers</b></p> <ul style="list-style-type: none"> <li>Operations with rational numbers</li> <li>Squares and Square Roots</li> </ul> <p><b>Geometry and Measurement</b></p> <ul style="list-style-type: none"> <li>Area and volume</li> </ul>	<p><b>Linear functions and graphing</b></p> <ul style="list-style-type: none"> <li>Determine whether a relation is a function</li> <li>Graph functions</li> </ul> <p><b>Powers and nonlinear functions</b></p> <ul style="list-style-type: none"> <li>Write and evaluate expressions using sxponents</li> </ul> <p><b>Real numbers and right triangles</b></p> <ul style="list-style-type: none"> <li>Solve equations using square roots</li> </ul>	<ul style="list-style-type: none"> <li>Solve Systems of Inequalities</li> </ul> <p><b>Exponents &amp; Functions</b></p> <p><b>Polynomials/Factoring</b></p> <ul style="list-style-type: none"> <li>Add, Subtract, &amp; Multiply</li> <li>Quadratic Equations in Factored Form</li> <li>Factoring <math>x^2 + bx + c</math></li> <li>Factoring <math>ax^2 + bx + c</math></li> </ul> <p><b>Quadratic Equations</b></p> <ul style="list-style-type: none"> <li>Solve by Graphing</li> </ul>	<ul style="list-style-type: none"> <li>Special Right Triangles 30-60-90 and 45-45-90</li> <li>Trapezoids / Rhombus/ Kite</li> <li>Circles/Arcs/Sectors</li> <li>Geometric Probability</li> </ul> <p><b>Similarity</b></p> <ul style="list-style-type: none"> <li>Ratios/ Proportions</li> <li>Similar Polygons</li> <li>Similarity in Right Triangles</li> <li>Perimeters and Areas of Similar Figures</li> </ul>
<b>Quarter 4</b>	<ul style="list-style-type: none"> <li>Multiplication and Division Equations</li> <li>Units of Measure</li> <li>Length and perimeter</li> <li>Area</li> <li>Volume</li> <li>Algebra: patterns</li> <li>Geometry and motion</li> <li>Algebra: graph relationships</li> </ul>	<p><b>Patterns of Algebra: Equations and Graphs</b></p> <ul style="list-style-type: none"> <li>Understanding and writing equations</li> <li>One and two-step integer equations</li> </ul> <p><b>Geometry: Solids, Circles and Transformations</b></p>	<p><b>Similarity, Congruence and Transformations</b></p> <p><b>Counting and Probability</b></p> <ul style="list-style-type: none"> <li>Counting Principle</li> <li>Permutations/Combinations</li> <li>Experimental and Geometric Probability</li> <li>Independent and Dependent Events</li> </ul>	<p><b>Distance and angle</b></p> <ul style="list-style-type: none"> <li>Classify polygons</li> <li>Find the area of specific polygons</li> </ul> <p><b>Surface area and volume</b></p> <ul style="list-style-type: none"> <li>Draw and identify 3-D figures</li> <li>Volume</li> </ul> <p><b>Statistics and Probability</b></p> <ul style="list-style-type: none"> <li>Counting Principle</li> <li>Permutations/Combinations</li> <li>Experimental and Geometric Probability</li> <li>Independent and Dependent Events</li> </ul>	<ul style="list-style-type: none"> <li>Quadratic Formula</li> <li>Discriminant</li> <li>Complete the Square</li> </ul> <p><b>Rational Expressions and Equations</b></p> <ul style="list-style-type: none"> <li>Proportions</li> <li>Simplifying Rational Expressions</li> </ul>	<p><b>Right Triangle Trig</b></p> <ul style="list-style-type: none"> <li>Sin/ Cos/ Tan</li> </ul> <p><b>Surface Area and Volume</b></p> <ul style="list-style-type: none"> <li>Nets/ Prisms/ Cylinders</li> <li>Pyramids and Cones</li> <li>Spheres</li> </ul> <p><b>Circles</b></p> <ul style="list-style-type: none"> <li>Tangent Lines/Chords/Arcs</li> <li>Inscribed Angles</li> <li>Angle measures and segment length.</li> <li>Circles in a coordinate plane.</li> <li>Locus: set of points.</li> </ul>