

# Mathematics Scope and Sequence

	<b>First Quarter</b>	<b>Second Quarter</b>	<b>Third Quarter</b>	<b>Fourth Quarter/ Outcomes</b>
<b>Kindergarten</b>	<ul style="list-style-type: none"> <li>• Classification, Position and Patterns</li> <li>• Getting Started with Numbers</li> <li>• Developing understanding of concept of numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Plane shapes and solid shapes</li> <li>• Record using numerals</li> <li>• Numbers 1-12</li> <li>• Understand relationship between numerals and quantity</li> <li>• Begin counting by 2s, 5s, 10s</li> </ul>	<ul style="list-style-type: none"> <li>• Time and money</li> <li>• Measurement- length, weight, and capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Addition and subtraction</li> <li>• Greater numbers</li> <li>• Master counting by 2s, 5s, 10s</li> </ul>
<b>Grade 1</b>	<ul style="list-style-type: none"> <li>• Number Sense: Counting, Number Order, More/ Fewer, Sorting, Classifying</li> <li>• Graphing</li> <li>• Patterns</li> <li>• Tallying</li> <li>• Calendar: days, weeks, months</li> <li>• Patterns: identify, extend, create</li> <li>• Visualizing numbers</li> <li>• Tables</li> <li>• Number combinations</li> <li>• Even/ Odd</li> <li>• Counting on</li> <li>• Addition/ Subtraction</li> </ul>	<ul style="list-style-type: none"> <li>• Addition: sentences</li> <li>• Counting on: Doubles, Sums of 10</li> <li>• Missing addends</li> <li>• Subtraction: counting back, subtraction from 10</li> <li>• Place Value: ones, tens, hundreds</li> <li>• 2 digit addition</li> <li>• 2 digit subtraction</li> <li>• Geometry: Shapes 2-D, Solids 3-D</li> </ul>	<ul style="list-style-type: none"> <li>• -Money: identify coins, add coins</li> <li>• -Fractions: <math>\frac{1}{8}</math>, <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math></li> <li>• -Weight: equal/ balanced</li> <li>• -Measurement: inch, foot, centimeter</li> <li>• -Linear Measurement: Ruler</li> </ul>	<ul style="list-style-type: none"> <li>• Time: to the hour, to the half hour, to the minute</li> <li>• Estimation</li> <li>• Probability</li> </ul>
<b>Grade 2</b>	<ul style="list-style-type: none"> <li>• Numbers through 20</li> <li>• Addition and Subtraction Facts through 12</li> <li>• Place Value to 100</li> <li>• Addition and Subtraction Facts through 20</li> </ul>	<ul style="list-style-type: none"> <li>• Time and Money</li> <li>• Addition and Subtraction Facts through 20</li> <li>• Geometry and Fractions</li> </ul>	<ul style="list-style-type: none"> <li>• Subtraction of 2-digit numbers</li> <li>• Measurement</li> <li>• Multiplication and Division Readiness</li> </ul>	<ul style="list-style-type: none"> <li>• Place Value through 1000/Addition and Subtraction of 3-digit numbers</li> </ul>

<p><b>Grade 3</b></p>	<ul style="list-style-type: none"> <li>• Addition and Subtraction Facts: counting and ordering, addition and subtraction up to 20, missing addends, multiple addends, fact families, problem solving, adding and subtracting 2 and 3 digit numbers, regrouping, estimating sums and differences, problem solving</li> <li>• Place Value, Money and Time: place value for ones, tens and hundreds, comparing and ordering, rounding dollars and cents, making change, telling time, AM and PM, problem solving:</li> </ul>	<ul style="list-style-type: none"> <li>• Collecting and Organizing Data: making equal sets, collecting and recording data, pictographs, bar graphs, line graphs, temperatures, probability, predicting</li> <li>• Multiplication and Division up to 5: multiplying and dividing up to 5, properties of multiplication and division, guess and check strategies</li> </ul>	<ul style="list-style-type: none"> <li>• Multiplication and Division up to 9: rules for division, multiplication table, multiplying and dividing up to 9, patterns, problem solving</li> </ul>	<ul style="list-style-type: none"> <li>• Geometry: slides, flips, turns, angles, congruence, symmetry, circles, solids, visualization, lines, segments, ordered pairs, area, problem solving</li> <li>• Fractions: fractions, comparing, equivalent, estimating, mixed numbers, time, problem solving</li> <li>• Measurement and Time: inch, ½ inch, foot, yard, mile, cup, pint, quart, gallon</li> </ul>
<p><b>Grade 4</b></p>	<ul style="list-style-type: none"> <li>• Place Value</li> <li>• Addition and Subtraction Whole Numbers</li> <li>• Money</li> <li>• Multiplication and Division Concepts and Facts</li> <li>• Time, Data, Graphs</li> <li>• Multiplication: 1 by 3 digit numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Multiplication: 2 by 2 digit numbers</li> <li>• Geometry and Measurement</li> </ul>	<ul style="list-style-type: none"> <li>• Fraction Concepts</li> <li>• Addition and Subtraction of Fractions</li> </ul>	<ul style="list-style-type: none"> <li>• Decimals and Measurement</li> <li>• Graphing</li> <li>• Probability</li> <li>• Algebra</li> </ul>
<p><b>Grade 5</b></p>	<ul style="list-style-type: none"> <li>• Place Value of Whole Numbers and Decimals</li> <li>• Multiplication of Whole Numbers</li> <li>• Division of Whole Numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Collecting, Organizing and Using Data</li> <li>• Measurement and Geometry</li> </ul>	<ul style="list-style-type: none"> <li>• Multiplication and Division of Decimals</li> <li>• Fractions and Mixed Numbers</li> <li>• Subtracting, Multiplying and Dividing Fractions</li> </ul>	<ul style="list-style-type: none"> <li>• Percent and Probability</li> <li>• Area and Volume</li> </ul>

## Middle School Math

	<b>First Quarter</b>	<b>Second Quarter</b>	<b>Third Quarter</b>	<b>Fourth Quarter/ Outcomes</b>
<i>Grade 6</i>	<ul style="list-style-type: none"> <li>• Addition of whole numbers</li> <li>• Division of whole numbers</li> <li>• Fractions</li> <li>• Estimation</li> <li>• decimals</li> </ul>	<ul style="list-style-type: none"> <li>• Graphing and statistics</li> <li>• Integers, rational and real numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion and Percent</li> <li>• Expressions, exponents, expanded notation and order of operations.</li> </ul>	<ul style="list-style-type: none"> <li>• Geometry</li> </ul>
<i>Grade 7 Pre-Algebra</i>	<ul style="list-style-type: none"> <li>• 6<sup>th</sup> grade assessment</li> <li>• The Sum and Differences of Whole Numbers</li> <li>• The Product and Quotients of Whole Numbers</li> <li>• Reading and Writing Decimals</li> <li>• Comparing, Ordering, and Rounding Decimals</li> <li>• The Sums and Differences of Decimals</li> <li>• The Product and Quotients of Decimals</li> <li>• Solving Money Problems</li> <li>• The Meaning of a Fraction</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing to the Lowest Terms and Raising to the Highest Terms</li> <li>• Finding the Common Denominators</li> <li>• Comparing and Ordering Fractions</li> <li>• Improper Fractions and Mixed Numbers</li> <li>• Adding and Subtracting Fractions</li> <li>• Multiplying and Dividing Fractions</li> </ul>	Sets and numbers <ul style="list-style-type: none"> <li>• Set concept and operations</li> <li>• Early number systems</li> <li>• Decimal number systems</li> <li>• Factors and multiples</li> <li>• Like denominators</li> <li>• Unlike denominators</li> </ul> Fractions <ul style="list-style-type: none"> <li>• Decimal fractions</li> <li>• Word problems</li> <li>• Common fractions</li> <li>• Decimal fractions</li> <li>• Per cents</li> <li>• Word problems</li> </ul>	Formulas and Ratios <ul style="list-style-type: none"> <li>• Writing formulas</li> <li>• A function machine</li> <li>• Equations</li> <li>• Ratio &amp; proportions</li> </ul> Sets and Numbers <ul style="list-style-type: none"> <li>• Gathering and organizing data</li> <li>• Central tendency and dispersion</li> <li>• Graphs of statistics</li> <li>• Graphs of points</li> </ul> Review <ul style="list-style-type: none"> <li>• Whole numbers</li> <li>• Geometry, sets, and systems</li> <li>• Fractions</li> <li>• Formulas, ratios and statistics</li> </ul>
<i>Grade 8 Algebra</i>	<p style="text-align: center;"><b>Whole Numbers</b></p> <ul style="list-style-type: none"> <li>• The set of whole numbers</li> <li>• Graphs</li> <li>• Operations with whole numbers</li> <li>• Applications with whole numbers</li> </ul> <p style="text-align: center;"><b>Numbers &amp; Factors</b></p> <ul style="list-style-type: none"> <li>• Numbers and bases</li> <li>• Sets</li> <li>• Factors and multiples</li> <li>• Least common multiple</li> </ul> <p style="text-align: center;"><b>Rational Numbers</b></p> <ul style="list-style-type: none"> <li>• Proper &amp; improper fraction</li> <li>• Mixed numbers</li> <li>• Decimal fractions</li> </ul>	<p style="text-align: center;"><b>Fractions and Rounding</b></p> <ul style="list-style-type: none"> <li>• Common fraction addition</li> <li>• Common fraction subtractions</li> <li>• Decimal fractions</li> <li>• Rounding numbers</li> <li>• Multiplication of fractions</li> <li>• Division of fractions</li> <li>• Fraction as per cents</li> <li>• Per cent exercises</li> </ul>	Statistics and Graphs <ul style="list-style-type: none"> <li>• Statistical measures</li> <li>• Types of graphs</li> <li>• Simple probabilities</li> <li>• And -or statements</li> </ul> Integers <ul style="list-style-type: none"> <li>• Basic concepts</li> <li>• Addition &amp; subtraction</li> <li>• Multiplication &amp; division</li> <li>• Expressions &amp; sentences</li> </ul>	Formulas and Geometry <ul style="list-style-type: none"> <li>• Square roots</li> <li>• Perimeter, circumference &amp; areas</li> <li>• Rectangular solids</li> <li>• Cylinder, cone &amp; sphere</li> </ul> Fractions and Percents <ul style="list-style-type: none"> <li>• Variables in formulas</li> <li>• Addition and subtraction</li> <li>• Multiplication and division</li> <li>• Problem solving</li> </ul> Review <ul style="list-style-type: none"> <li>•</li> </ul>

## High School Math

	<b>First Quarter</b>	<b>Second Quarter</b>	<b>Third Quarter</b>	<b>Fourth Quarter/ Outcomes</b>
<i>Grade 9 Geometry</i>	<b>A Mathematical System</b> <ul style="list-style-type: none"> <li>• Point, lines, and plane</li> <li>• Definition</li> <li>• Geometric terms</li> <li>• Postulates and theorems</li> </ul> <b>Proofs</b> <ul style="list-style-type: none"> <li>• Logic</li> <li>• Reasoning</li> <li>• Two column proof</li> <li>• Paragraph proof</li> </ul> <b>Congruency</b> <ul style="list-style-type: none"> <li>• Congruent triangles</li> <li>• Corresponding parts</li> <li>• Inequalities</li> <li>• Quadrilaterals</li> </ul>	<b>Similar Polygons</b> <ul style="list-style-type: none"> <li>• Ratio and proportions</li> <li>• Definition and similarity</li> <li>• Similar polygons &amp; triangles</li> <li>• Right triangle geometry</li> </ul> <b>Circles</b> <ul style="list-style-type: none"> <li>• Circles and spheres</li> <li>• Tangents, arcs and chords</li> <li>• Special angles in circles</li> <li>• Special segments in circles</li> </ul>	<b>Construction and Locus</b> <ul style="list-style-type: none"> <li>• Basic constructions</li> <li>• Triangles and circles</li> <li>• Polygons</li> <li>• Locus meaning and use</li> </ul> <b>Area and Volume</b> <ul style="list-style-type: none"> <li>• Area of polygons</li> <li>• Area of circles</li> <li>• Surface areas of solids</li> <li>• Volume of solids</li> </ul>	<b>Coordinate Geometry</b> <ul style="list-style-type: none"> <li>• Ordered pairs</li> <li>• Distance</li> <li>• Lines</li> <li>• Coordinate proofs</li> </ul> <b>Review</b> <ul style="list-style-type: none"> <li>• Proof and angles</li> <li>• Polygons and circles</li> <li>• Construction and measurement</li> <li>• Coordinate geometry</li> </ul>
<i>Grade 10/11 Algebra II</i>	<b>Set Structures and Function</b> <ul style="list-style-type: none"> <li>• Properties &amp; operation of sets</li> <li>• Axioms &amp; applications</li> <li>• Relations &amp; functions</li> <li>• Algebraic expression</li> </ul> <b>Numbers and Sentences</b> <ul style="list-style-type: none"> <li>• Orders and absolute values</li> <li>• . Sums and products</li> <li>• . Algebraic sentences</li> <li>• . Number and motion problems</li> </ul> <b>Polynomials</b> <ul style="list-style-type: none"> <li>• . Multiplying polynomials</li> <li>• . Factoring</li> <li>• . Operation with polynomials</li> <li>• . Variations</li> </ul>	<b>Radical Expressions</b> Multiplying & dividing fractions . Adding & subtracting fractions . Equations with fractions . Applications with fractions <b>Real Numbers</b> . Rational & irrational numbers . Laws of radicals . Quadratic equations . Quadratic formulas	<b>Quadratic Equations</b> . Distance formulas . Conic sections . Systems of equations . Application of conic sections <b>Area and Volume</b> . Distance formulas . Conic sections . Systems of equations . Application of conic sections	<b>Counting Principles</b> . Progressions . Permutations . Combinations . Probability <b>Review</b> Integers and open sentences . Graphs and polynomials . Fractions quadratics . Exponential fractions
<i>Grade 11/12 Pre-Calculus</i>	<b>Relations and Function</b> <ul style="list-style-type: none"> <li>• Relation and function.</li> </ul>	<b>Circular Functions and Graph</b> <ul style="list-style-type: none"> <li>• Circular function &amp; special function</li> </ul>	<b>Trigonometric functions</b> <ul style="list-style-type: none"> <li>• Law of cosines</li> </ul>	<b>Quadratic Equations.</b> <ul style="list-style-type: none"> <li>• Conic sections</li> </ul>

	<ul style="list-style-type: none"> <li>• Rules of correspondence.</li> <li>• Notation of function.</li> <li>• Types of function</li> </ul> <p><b>Special Function</b></p> <ul style="list-style-type: none"> <li>• Linear function.</li> <li>• Second-degree function.</li> <li>• Polynomial function.</li> <li>• Other function.</li> </ul> <p><b>Trigonometry</b></p> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Evaluation of function</li> <li>• Trigonometric table</li> <li>• Special angles</li> </ul>	<ul style="list-style-type: none"> <li>• Graphs of sin &amp; cosine</li> <li>• Amplitude and period</li> <li>• Phase shift</li> </ul> <p><b>Identities &amp; Functions</b></p> <ul style="list-style-type: none"> <li>• Reciprocal relations</li> <li>• Pythagorean relations</li> <li>• Trigonometric identities</li> <li>• Sum and difference formulas</li> </ul>	<ul style="list-style-type: none"> <li>• Law of sine</li> <li>• Applied problems</li> <li>• Inverse functions</li> <li>• Graphing polar coordinates</li> <li>• Converting polar coordinates</li> <li>• Graphing polar equations</li> </ul>	<ul style="list-style-type: none"> <li>• Circle and ellipse</li> <li>• Parabola and hyperbola</li> <li>• Transformations</li> <li>• Mathematical induction</li> <li>• Functions and limits</li> <li>• Slopes of functions</li> <li>• Pythagorean relations</li> </ul>
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