



AAC K-12 Math Scope and Sequence

AAC's Math Curriculum uses the California Common Core Math standards as its base. Emphasis is placed on critical thinking/problem solving skills, applying math to everyday life and a Project-Based Learning approach, whenever possible. Students in secondary are tracked according to their ability, to improve differentiation and meet learners at their level.

Math Practices K - 12

These eight practices outline core processes and proficiencies that students of mathematics are taught to develop at all grade levels at AAC.

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.

Quarter 1	Quarter 2	Quarter 3	Quarter 4
Kindergarten Math			
<p>Counting and Cardinality</p> <ul style="list-style-type: none"> • Know number names and the count sequence • Count to tell the number of objects • Compare numbers 	<p>Geometry and Positions</p> <ul style="list-style-type: none"> • Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). • Analyze, compare, create, and compose shapes 	<p>Measurement and Data</p> <ul style="list-style-type: none"> • Describe and compare measurable attributes • Classify objects and count the number of objects in each category 	<p>Number and Operations in Base Ten</p> <ul style="list-style-type: none"> • Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from • Work with numbers 11–19 to gain foundations for place value
1st Grade Math			
<p>Understanding Place Value</p> <ul style="list-style-type: none"> • Extend the counting sequence • Understand place value • Represent and solve problems involving addition and subtraction 	<p>Properties of Operations to Add and Subtract</p> <ul style="list-style-type: none"> • Understand and apply properties of operations and the relationship between addition and subtraction • Add and subtract within 20 • Use place value understanding and properties of operations to add and subtract 	<p>Properties of Operations to Add and Subtract, Measurement</p> <ul style="list-style-type: none"> • Use place value understanding and properties of operations to add and subtract • Work with addition and subtraction equations • Measure lengths indirectly and by iterating length units 	<p>Measurement, Geometry, Data</p> <ul style="list-style-type: none"> • Tell and write time • Represent and interpret data • Reason with shapes and their attributes

Quarter 1	Quarter 2	Quarter 3	Quarter 4
2nd Grade Math			
<p>Number Sense and Place Value</p> <ul style="list-style-type: none"> • Understand Place Value • Add and subtract within 20 • Represent and solve problems involving addition and subtraction • Use place value understanding and properties of operations to add and subtract 	<p>Addition and Subtraction</p> <ul style="list-style-type: none"> • Use place value understanding and properties of operations to add and subtract • Represent and solve problems involving addition and subtraction • Work with equal groups of objects to gain foundations for multiplication 	<p>Measurement and Money</p> <ul style="list-style-type: none"> • Measure and estimate lengths in standard units. • Relate addition and subtraction to length. • Work with time and money 	<p>Geometry and Data</p> <ul style="list-style-type: none"> • Reason with shapes and their attributes • Represent and interpret data
3rd Grade Math			
<p>Place Value Operations and Understanding Whole Number Operations</p> <ul style="list-style-type: none"> • Use place value understanding and properties of operations to perform multi-digit arithmetic • Represent and solve problems involving multiplication and division • Understand properties of multiplication and the relationship between multiplication and division 	<p>Place Value Operations and Understanding Whole Number Operations, Measurement</p> <ul style="list-style-type: none"> • Understand properties of multiplication and the relationship between multiplication and division • Multiply and divide within 100 • Solve problems involving the four operations, and identify and explain patterns in arithmetic • Solve problems involving measurement and estimation 	<p>Fractions and Data</p> <ul style="list-style-type: none"> • Develop understanding of fractions as numbers • Represent and interpret data 	<p>Measurement and Geometry</p> <ul style="list-style-type: none"> • Geometric measurement: understand concepts of area and relate area to multiplication and to addition • Geometric measurement: recognize perimeter • Reason with shapes and attributes

Quarter 1	Quarter 2	Quarter 3	Quarter 4
4th Grade Math			
<p>Place Value and Operations with Whole Numbers</p> <ul style="list-style-type: none"> • Generalize place value understanding for multi-digit whole numbers • Use place value understanding and properties of operations to perform multi-digit arithmetic • Use the four operations with whole numbers to solve problems • Gain familiarity with factors and multiples 	<p>Place Value and Operations with Whole Numbers and Measurement</p> <ul style="list-style-type: none"> • Use place value understanding and properties of operations to perform multi-digit arithmetic • Use the four operations with whole numbers to solve problems • Solve problems involving measurement and conversion of measurements 	<p>Fractions and Decimals</p> <ul style="list-style-type: none"> • Extend understanding of fraction equivalence and ordering • Build fractions from unit fractions • Understand decimal notation for fractions, and compare decimal fractions 	<p>Geometry, Measurement, and Data</p> <ul style="list-style-type: none"> • Represent and interpret data • Geometric measurement: understand concepts of angle and measure angles • Draw and identify lines and angles and classify shapes by properties of their lines and angles

Quarter 1	Quarter 2	Quarter 3	Quarter 4
5th Grade Math			
<p>Fluency with Whole Numbers and Decimals</p> <ul style="list-style-type: none"> • Understand the place value system • Write and interpret numerical expressions • Analyze patterns and relationships 	<p>Fluency with Whole Numbers and Decimals and Measurement</p> <ul style="list-style-type: none"> • Perform operations with multi-digit whole numbers with decimals to hundredths. • Convert like measurement units within a given measurement system • Geometric measurement: understand concepts of volume 	<p>Operations with Fractions</p> <ul style="list-style-type: none"> • Use equivalent fractions as strategy to add and subtract fractions • Apply and extend previous understandings of multiplication and division 	<p>Geometry, Measurement, and Data</p> <ul style="list-style-type: none"> • Represent and interpret data • Graph points on the coordinate plane to solve real-world and mathematical problems • Classify two-dimensional figures into categories based on their properties

Quarter 1	Quarter 2	Quarter 3	Quarter 4
6th Grade Math			
<p>Numerical Expressions and Factors - 15 days</p> <ul style="list-style-type: none"> ● Whole Number Operations ● Powers & Exponents ● Order of Operations ● Prime Factorization ● GCF & LCM <p>Fractions and Decimals</p> <ul style="list-style-type: none"> ● Multiplying & Dividing Fractions ● Adding, Subtracting, Multiplying & Dividing Decimals <p>Algebraic Expressions and Properties</p> <ul style="list-style-type: none"> ● Algebraic Expressions ● Writing Expressions ● Properties of Addition & Multiplication ● The Distributive Property 	<p>Ratios and Rates</p> <ul style="list-style-type: none"> ● Ratios ● Ratio Tables ● Rates ● Comparing and Graphing Ratios ● Percents ● Solving Percent Problems ● Converting Measures <p>Integers and the Coordinate Plane</p> <ul style="list-style-type: none"> ● Integers ● Comparing & Ordering Integers ● Fractions and Decimals on the Number Line ● Absolute Value ● The Coordinate Plane 	<p>Equations and Inequalities</p> <ul style="list-style-type: none"> ● Writing Equations in One & Two Variables ● Solving Equations using Addition, Subtraction, Multiplication or Division ● Writing and Graphing Inequalities ● Solving Inequalities using Addition, Subtraction, Multiplication or Division <p>Statistical Measures</p> <ul style="list-style-type: none"> ● Introduction to Statistics ● Mean ● Measures of Center ● Measures of Variation ● Mean Absolute Deviation 	<p>Data Displays</p> <ul style="list-style-type: none"> ● Histograms ● Shapes of Distributions ● Box-and-Whisker Plots <p>Areas of Polygons</p> <ul style="list-style-type: none"> ● Areas of Parallelograms, Triangles and Trapezoids ● Polygons in the Coordinate Plane <p>Surface Area and Volume</p> <ul style="list-style-type: none"> ● 3-D Figures ● Surface Areas of Prisms & Pyramids ● Volumes of Rectangular Prisms

Quarter 1	Quarter 2	Quarter 3	Quarter 4
7th Grade Math			
<p>Unit 1: Algebraic Reasoning</p> <p>Operations and Properties</p> <ul style="list-style-type: none"> • Order of Operations • Properties of Numbers <p>Algebraic Thinking</p> <ul style="list-style-type: none"> • Variables and Algebraic Expressions • Translating Words into Math • Simplifying • Algebraic Expressions <p>Unit 2: Integers and Rational Numbers</p> <p>Integers</p> <ul style="list-style-type: none"> • Integers • Adding Integers • Subtracting Integers • Multiplying and Dividing Integers • Solving Equations Containing Integers <p>Rational Numbers</p> <ul style="list-style-type: none"> • Equivalent Fractions and Decimals • Comparing and Ordering Rational Numbers <p>Unit 3: Applying Rational Numbers</p> <p>Decimal Operations and Applications</p>	<p>Unit 4: Proportional Relationships</p> <p>Ratios, Rates, and Proportions</p> <p>Rates</p> <ul style="list-style-type: none"> • Identifying and Writing Proportions • Solving Proportions <p>Proportions in Geometry</p> <ul style="list-style-type: none"> • Similar Figures and Proportions • Using Similar Figures • Scale Drawings and Scale Models <p>Unit 5: Graphs</p> <p>Graphs</p> <ul style="list-style-type: none"> • The Coordinate Plane • interpreting Graphs <p>Graphs of Linear Equations</p> <ul style="list-style-type: none"> • Slope and Rates of Change • Direct Variation <p>Unit 6: Percents</p> <p>Fractions, Decimals, and Percents</p> <ul style="list-style-type: none"> • Fractions, Decimals, and Percents • Estimating with Percents • Using Properties with Rational Numbers <p>Applying Percents</p>	<p>Unit 7: Collecting, Displaying, and Analyzing Data</p> <p>Organizing and Displaying Data</p> <ul style="list-style-type: none"> • Mean, Median, Mode, and Range • Box-and-Whisker Plots • Populations and Samples <p>Unit 8: Geometric Figures</p> <p>Lines and Angles</p> <ul style="list-style-type: none"> • Building Blocks of Geometry • Classifying Angles • Line and Angle Relationships • Angles in Polygons • Congruent Figures <p>Unit 9: Measurement and Geometry</p> <p>Perimeter, Circumference, and Area</p> <p>Perimeter and Circumference</p> <p>Area of Circles</p> <p>Area of Irregular Figures</p> <p>Volume and Surface Area</p> <ul style="list-style-type: none"> • Introduction to Three Dimensional Figures 	<p>Unit 10: Probability</p> <p>Introduction to Probability</p> <p>Probability</p> <ul style="list-style-type: none"> • Experimental Probability • Sample Spaces • Theoretical Probability • Making Predictions <p>Applications of Probability</p> <ul style="list-style-type: none"> • Probability of Independent and Dependent Events • Combinations • Permutations • Probability of Compound Events <p>Unit 11: Multi-Step Equations and Inequalities</p> <p>Multi-Step Equations</p> <ul style="list-style-type: none"> • Solving Two-Step Equations • Solving Multi-Step Equations • Solving Equations with Variables on Both Sides <p>Inequalities</p> <ul style="list-style-type: none"> • Inequalities • Solving Inequalities by Adding or Subtracting • Solving Inequalities by Multiplying or Dividing • Solving Multi-Step

<ul style="list-style-type: none">• Adding and Subtracting Decimals• Multiplying Decimals• Dividing Decimals• Solving Equations Containing Decimals <p>Fraction Operations and Applications</p> <ul style="list-style-type: none">• Adding and Subtracting Fractions• Multiplying Fractions and Mixed Numbers• Dividing Fractions and Mixed Numbers• Solving Equations Containing Fractions	<ul style="list-style-type: none">• Percent of Change• Applications of Percents• Simple Interest	<ul style="list-style-type: none">• Volume of Prisms and Cylinders• Surface Area of Prisms and Cylinders	<p>Inequalities</p>
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Quarter 1	Quarter 2	Quarter 3	Quarter 4
8th Grade Math			
<p>Unit 1: Rational Numbers</p> <p>Rational Number Operations</p> <ul style="list-style-type: none"> • Rational Numbers • Multiplying Rational Numbers • Dividing Rational Numbers • Adding and Subtracting with Unlike Denominators <p>Equations with Rational Numbers</p> <ul style="list-style-type: none"> • Solving Equations with Rational Numbers • Solving Two-Step Equations <p>Unit 2: Graphs and Functions</p> <p>Tables and Graphs</p> <ul style="list-style-type: none"> • Ordered Pairs • Graphing on a Coordinate Plane • Interpreting Graphs <p>Functions</p> <ul style="list-style-type: none"> • Functions • Equations, Tables, and Graphs 	<p>Unit 3: Exponents and Roots</p> <p>Exponents</p> <ul style="list-style-type: none"> • Integer Exponents • Properties of Exponents • Scientific Notation • Operating With Scientific Notation <p>Roots</p> <ul style="list-style-type: none"> ○ Squares and Square Roots ○ Estimating Square Roots ○ The Real Numbers ○ The Pythagorean Theorem ○ Applying the Pythagorean Theorem and Its Converse <p>Unit 4: Ratios, Proportions, and Similarity</p> <p>Ratios, Rates, and Proportions</p> <ul style="list-style-type: none"> • Ratios, Rates, and Unit Rates • Solving Proportions <p>Similarity and Scale</p> <ul style="list-style-type: none"> • Similar Figures • Dilations 	<p>Unit 5: Geometric Relationships</p> <p>Two-Dimensional Geometry</p> <ul style="list-style-type: none"> • Angle Relationships • Parallel and Perpendicular Lines Triangles • Coordinate Geometry <p>Patterns in Geometry</p> <ul style="list-style-type: none"> • Congruence • Transformations • Similarity & Congruence Transformations • Identifying Combined Transformations <p>Unit 6: Measurement and Geometry</p> <p>Circles, Prisms, and Cylinders</p> <ul style="list-style-type: none"> • Circles • Volume of Prisms and Cylinders <p>Pyramids, Cones, and Spheres</p> <ul style="list-style-type: none"> • Volume of Pyramids and Cones • Spheres 	<p>Unit 7: Multi-Step Equations</p> <p>Solving Linear Equations</p> <ul style="list-style-type: none"> • Simplifying Algebraic Expressions • Solving Multi-Step Equations • Solving Equations with Variables on Both Sides • Systems of Equations <p>Unit 8: Graphing Lines</p> <p>Linear Equations</p> <ul style="list-style-type: none"> • Graphing Linear Equations • Slope of a Line • Using Slopes and Intercepts • Point-Slope Form 8b Linear Relationships • Direct Variation • Solving Systems of Linear Equations by Graphing <p>Unit 9: Data, Prediction, and Linear Functions</p> <p>Data and Prediction</p> <ul style="list-style-type: none"> • Scatter Plots • Linear Best Fit Models <p>Linear Functions</p> <ul style="list-style-type: none"> • Linear Functions • Comparing Multiple Representations

Quarter 1	Quarter 2	Quarter 3	Quarter 4
9th Grade Algebra 1			
<p>Review Middle School Topics</p> <ul style="list-style-type: none"> • Exponents • Systems of Real Numbers • Distributive Property (forwards and backwards) • Combining like terms • Properties of Real Numbers <p>Unit 1: Quantities & Modeling Solving Equations</p> <ul style="list-style-type: none"> • Reporting with Precision and Accuracy • Modeling with Expressions • Creating and Solving Equations • Solving for a Variable • Creating and Solving Inequalities <p>Unit 2: Understanding Functions</p> <ul style="list-style-type: none"> • Graphing Relationships • Understanding Relations and Functions • Graphing Functions • Identifying and Graphing Sequences • Arithmetic Sequences 	<p>Unit 3: Linear Functions, Equations, and Inequalities</p> <ul style="list-style-type: none"> • Understanding Linear Functions • Using Intercepts • Interpreting Rate of Change and Slope • Transforming Linear Functions • Comparing Properties of Linear Functions • Modeling Linear Relationships • Using Functions to Solve Equations <p>Unit 4: Statistical Models</p> <ul style="list-style-type: none"> • Two-Way Frequency Tables • Relative Frequency • Measures of Center and Spread • Data Distributions and Outliers • Histograms and Box Plots • Normal Distributions • Scatter Plots and Trend Lines • Fitting a Linear Model to Data 	<p>Unit 5: Linear Systems and Piecewise-Defined Functions</p> <ul style="list-style-type: none"> • Solving Linear Systems • Creating Systems of Linear Equations • Graphing Systems of Linear Inequalities • Modeling with Linear Systems • Understanding Piecewise-Defined Functions • Solving Absolute Value Equations & Inequalities <p>Unit 6: Exponential Relationships Understanding Rational Exponents and Radicals</p> <ul style="list-style-type: none"> • Understanding & Constructing Geometric Sequences • Constructing Exponential Functions • Modeling Exponential Growth and Decay • Comparing Linear and Exponential Models <p>Unit 7: Polynomial Operations</p> <ul style="list-style-type: none"> • Understanding Polynomial Expressions • Adding, Subtracting, and multiplying Polynomial Expressions • Special Products of Binomials 	<p>Unit 8: Quadratic Functions</p> <ul style="list-style-type: none"> • Understanding Quadratic Functions • Transforming Quadratic Functions • Interpreting Vertex Form and Standard Form • Connecting Intercepts and Zeros • Connecting Intercepts and Linear Factors • Applying the Zero Product Property to Solve Equations <p>Unit 9: Quadratic Equations and Modeling</p> <ul style="list-style-type: none"> • Solving Equations by Factoring, Roots, Square • Using Special Factors to Solve Equations • Using the Quadratic Formula • Choosing a Method for Solving Quadratic Equations • Solving Nonlinear Systems • Modeling with Quadratic Functions <p>Unit 10: Inverse Relationships</p> <ul style="list-style-type: none"> • Graphing Polynomial Functions • Understanding Inverse Functions • Graphing Square Root and Cube Functions

Quarter 1	Quarter 2	Quarter 3	Quarter 4
10th Geometry			
<p>Unit 1: Trigonometric ratios and right triangles</p> <ul style="list-style-type: none"> • Cosine as ratio of adjacent to hypotenuse • Pythagorean Theorem • Sine and cosine relationship • Sine as ratio of opposite to hypotenuse • Solve right triangles • Tangent as ratio of opposite to adjacent • Trigonometric ratio definitions for acute angles <p>Unit 2: Trigonometry in general</p> <ul style="list-style-type: none"> • Triangles • Area formula • Law of Cosines • Law of Sines • Non-right triangles • Right triangles 	<p>Unit 3: Circle theorems</p> <ul style="list-style-type: none"> • Angles of a quadrilateral inscribed in a circle • Chords • Circumscribed circle in a triangle • Inscribed angle • Inscribed circle in a triangle • Radii • Similarity • Tangent line to a circle construction <p>Unit 4: Arc length and area of sectors</p> <ul style="list-style-type: none"> • Arc length intercepted by an angle as ratio • Area of a sector formula • Radian measure • Expressing Geometric Properties 	<p>Unit 5: Conic section equation and geometry</p> <ul style="list-style-type: none"> • Center • Complete the square • Directrix • Equation of a circle • Equation of a parabola • Focus • Radius <p>Unit 6: Algebraic proofs of geometric theorems</p> <ul style="list-style-type: none"> • Area computation, triangle and rectangle • Coordinates • Perimeter computation, polygon • Segment partition for a given ratio • Slope of parallel lines • Slope of perpendicular lines 	<p>Unit 7: Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Volume formulas • Area of a circle • Investigate and Analyze Apply and Extend • Circumference of a circle • Volume of a cone • Volume of a cylinder • Volume of a pyramid • Volume of a sphere • Two-dimensional and three-dimensional object relationships <p>Unit 8: Prove geometric theorems</p> <ul style="list-style-type: none"> • Line and angle • Parallelogram • Triangle • Geometric construction • Compass • Equilateral triangle, square, regular hexagon inscribed in a circle ☐

Quarter 1	Quarter 2	Quarter 3	Quarter 4
11th Algebra 2			
<p>Unit 1: Transition Unit (Prepare for Algebra 2)</p> <ul style="list-style-type: none"> ❖ Basic Skill review : <ul style="list-style-type: none"> • solve equations • Using Linear Models • Families of Functions • Solving Systems Using Tables and Graphs • Solving Systems Algebraically • Solve Systems Algebraically <p>Unit 2: Quadratics</p> <ul style="list-style-type: none"> • Quadratic expressions • Quadratic Function & Transformation: • Standard Form of a Quadratic Function • Modeling with Quadratic Functions • Factoring: • Solving Quadratic equations with Tables and Graphs • Completing the Square • The Quadratic Formula • Complex Numbers** • Solve System of Equations • Linear + Quadratic functions 	<p>Unit 3: Polynomials & Rational Functions</p> <ul style="list-style-type: none"> • Polynomial Functions Polynomials, Linear Functions, and Zeros(Sketching graphs) • Solving polynomial equations • Transforming Polynomial Functions • Application for Polynomial Function • Dividing Polynomial • Rational Expression • Solving Rational Equations <p>Unit 4: Radical functions & Rational Exponents</p> <ul style="list-style-type: none"> • Properties of Exponents/roots and Radical Expressions • Multiplying and Dividing Radical Expressions • Binomial Radical Expressions • Rational Exponents • Solving Square Root and Other Radical Equations • Inverse relations and functions 	<p>Unit 5: Exponential & Logarithmic Functions</p> <ul style="list-style-type: none"> • Properties of exponents, • Properties of Logarithms • Exponential models and graphing • Transformation of Exponential Functions • Logarithmic functions as inverse functions • Properties of Logarithms • Exponential and log equations <p>Unit 6: Sequences and Series</p> <ul style="list-style-type: none"> • Mathematical Patterns • Arithmetic Sequences • Geometric Sequences • Arithmetic Series • Geometric Series 	<p>Unit 8: Periodic Functions and Pythagorean theorem</p> <ul style="list-style-type: none"> • Trig ratio: find a side and find an angle • Angle of elevation and angle of depression • Law of sine and Law of cosine • Angles and the Unit Circle • Radian Measure • The Sine Function • The cosine Function The tangent Function • Translation Sine and Cosine Functions • Reciprocal Trigonometric <p>Unit 7: Probability and Statistics</p> <ul style="list-style-type: none"> • Probability • Probability of Multiple Events Conditional Probability • Analyzing Data • Standard Deviation • Samples and Surveys • Normal Distributions • functions: Trigonometric Identities

Quarter 1	Quarter 2	Quarter 3	Quarter 4
12th College Algebra			
<p>Unit 1: Quadratic Relations and Equations</p> <ul style="list-style-type: none"> • Factoring quadratics • Graphing quadratic • Complex numbers** • Complex Solutions** • Modeling quadratics <p>Unit 2: Polynomial Functions and Equations</p> <ul style="list-style-type: none"> • The Fundamental Theorem of Algebra * • Factoring • The Remainder Theorem • Graphing Polynomials 	<p>Unit 3: Rational Functions and Equations</p> <ul style="list-style-type: none"> • Dividing Polynomials • Solve Rational Equations • Inverse Functions <p>Unit 4: Radical Functions and Equations</p> <ul style="list-style-type: none"> • Radicals and rational exponents • Solve Radical equations • Functions, graphing and inverses <p>Unit 5: Exponential and Logarithmic Functions</p> <ul style="list-style-type: none"> • Properties of exp. And log • Solve exp. And log. equations • Inverse functions • Graph functions • Modeling with functions 	<p>Unit 6: Sequences and Series</p> <ul style="list-style-type: none"> • Mathematical Patterns • Arithmetic Sequences • Geometric Sequences • Arithmetic Series • Geometric Series <p>Unit 7: Trigonometric Functions</p> <ul style="list-style-type: none"> • Trigonometric ratios • Law of sine and cosine • Radians • Applications of trigonometric functions 	<p>Unit 8: Conic section equation and geometry</p> <ul style="list-style-type: none"> • Center • Complete the square • Directrix • Equation of a circle • Equation of a parabola • Focus • Radius <p>Unit 9: Statistics and Probability</p> <p>Probability and Statistics</p> <ul style="list-style-type: none"> • Probability • Probability of Multiple Events Conditional Probability • Analyzing Data • Standard Deviation • Samples and Surveys Normal Distributions