Curriculum Map

| Subject: ALGEBRA I | Grade: 8 |  |
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| Time Frame | Topic | Content | Resources | Standards | Assessments |
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| SEPTEMBER | Foundations for Algebra <br> Solving Equations | - Variables and Expressions <br> - Order of Operations <br> - Evaluating Expressions <br> - Real Numbers and the Number Line <br> - Properties of Real Numbers <br> - Adding and Subtracting Real Numbers <br> - Multiplying and Dividing Real Numbers <br> - The Distributive Property <br> - Introduction to Equations <br> - Patterns, Equations and Graphs <br> - Solving One-Step Equations <br> - Solving Two-Step Equations <br> - Solving Multi-Step Equations <br> - Solving Equations with Variables on Both Sides | Student Text <br> Online Text <br> Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | A.SSE.A.1a <br> N.RN.A. 3 <br> A.CED.A. 1 <br> A.REI.D. 10 <br> A.REI.B. 3 |  |


| OCTOBER | Solving Equations <br> Solving Inequalities | - Literal Equations and Formulas <br> - Rations, Rates and Conversions <br> - Solving Proportions <br> - Proportions and Similar Figures <br> - Percents <br> - Change Expressed as a percent <br> - Inequalities and their graphs <br> - Solving inequalities using Addition and Subtraction <br> - Solving Inequalities using Multiplication and Division <br> - Solving Multi-step Inequalities <br> - Working with Sets <br> - Compound Inequalities <br> - Absolute Value Equations and Inequalities <br> - Unions and Intersections of Sets <br> - Patterns Equations and Graphs | Student Text <br> Online Text <br> Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | A.CED.A. 1 <br> A.REI.B. 3 <br> A.CED.A. 4 <br> N-Q.A. 3 |  |
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| NOVEMBER | An Introduction to Functions <br> Linear Functions | - Unions and Intersections of Sets <br> - Patterns Equations and Graphs <br> - Using Graphs to Relate Two Quantities <br> - Patterns and Linear Functions <br> - Patterns and Nonlinear Functions <br> - Graphing a Function Rule <br> - Writing a Function Rule <br> - Formalizing Relations and Functions <br> - Arithmetic Sequences <br> - Rate of Change and Slope <br> - Direct Variation | Student Text Online Text <br> Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | A.REI.D. 10 <br> A.REI.D.11F <br> -IF.B. <br> N-Q.A. 2 <br> F-IF.A. 1 <br> F-IF.A. 3 <br> F.LE.A.1b <br> F.BF.B. 3 |  |
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| DECEMBER | Linear Functions | - Slope-Intercept Form <br> - Point-Slope Form <br> - Standard Form <br> - Inverse of a Linear Function <br> - Parallel and Perpendicular Lines <br> - Scatter Plots and Trend Lines <br> - Graphing Absolute Value Functions <br> - Characteristics of Absolute Value Graphs | Student Text <br> Online Text <br> Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | F.IF.C.7a F.LE.A. 2 <br> A.CED.A. 2 <br> F.BF.B.4a <br> G.GPE.B. 5 <br> S-ID.B.6c <br> S-ID.B.6b <br> F.BF.B. 3 <br> F.IF.C.7b |  |


| JANUARY | Systems of Equations and Inequalities <br> Exponents and Exponential Functions | - Solving Systems by Graphing <br> - Solving Systems Using Tables and Graphs <br> - Solving Systems Using Substitution <br> - Solving Systems Using Elimination <br> - Application of Linear Systems <br> - Linear Inequalities <br> - Systems of Linear Inequalities <br> - Zero and Negative Exponents <br> - Multiplying Powers with the Same Base <br> - More Multiplication Properties of Exponents <br> - Divisions Properties of Exponents | Student Text Online Text Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | A.REI.C. 6 <br> A.REI.D. 11 <br> A.REI.C. 5 <br> A.REI.D. 12 <br> N.RN.A. 1 |  |
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| FEBRUARY | Exponents and Exponential Functions <br> Polynomials and Factoring | - Rational Exponents and Radicals <br> - Exponential Functions <br> - Exponential Growth and Decay <br> - Geometric Sequences <br> - Adding and Subtracting Polynomials <br> - Multiplying and Factoring <br> - Multiplying Binomials <br> - Multiplying Special Cases <br> - Factoring: $x^{\wedge} 2+b x+c$ <br> - Factoring: $a x^{\wedge} 2+b x+c$ <br> - Factoring Special Cases <br> - Factoring by Grouping | Student Text Online Text Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | N.RN.A. 2 <br> F-IF.C.8b <br> F-BF.A. 2 <br> A.APR.A. 1 <br> A.SSE.A.1a |  |
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| MARCH | Quadratic Functions and Equations <br> Radical Expressions and Equations | - Quadratic Graphs and Their Properties <br> - Quadratic Functions <br> - Solving Quadratic Equations <br> - Finding Roots <br> - Factoring to Solve Quadratic Equations <br> - Writing Quadratic Equations <br> - Completing the Square <br> - The Quadratic Formula and the Discriminant <br> - Linear, Quadratic and Exponential Models <br> - Analyzing Residual Plots <br> - Systems of Linear and Quadratic Equations <br> - The Pythagorean Theorem <br> - Simplifying Radicals <br> - Operations with Radical Expressions <br> - Solving Radical Equations <br> - Graphing Square Root Functions <br> - Trigonometric Ratios | Student Text <br> Online Text <br> Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | F-IF.C.7a <br> A-REI.B.4b <br> A-APR.B. 3 <br> A-CED.A. 2 <br> A.REI.B.4a <br> F-LE.A.1a <br> S-ID.B.6b <br> A.REI.C. 7 <br> G-SRT.C. 8 <br> A.REI.A. 2 <br> F-IF.C.7b |  |
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| APRIL | Rational Expressions and Functions | - Simplifying Rational Expressions <br> - Multiplying and Dividing Rational Expressions <br> - Dividing Polynomials <br> - Adding and Subtracting Rational Expressions <br> - Solving Rational Expressions <br> - Inverse Variation <br> - Graphing Rational Expressions | Student Text <br> Online Text <br> Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | A-APR.D. 7 <br> A.APR.D. 6 <br> A.CED.A. 1 <br> F-IF.B. 5 <br> F-IF.B. 4 <br> A.CED.A. 2 |  |
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| MAY | Data Analysis and Probability | - Organizing Data Using Matrices <br> - Frequency and Histograms <br> - Measures of Central Tendency and Dispersion <br> - Standard Deviation <br> - Box-and-Whisker Plots <br> - Designing Your Own Survey <br> - Samples and Surveys <br> - Two-Way Frequency Table <br> - Permutations and Combination <br> - Theoretical and Experimental Probability <br> - Conducting Simulations <br> - Probability of Compound Events <br> - Conditional Probability | Student Text Online Text <br> Chalk Board <br> Smart Board <br> White Board <br> Khan Academy <br> Pearson Teacher <br> Resources <br> Chrome Books <br> Calculators <br> Manipulatives | S-ID.A. 1 S-ID.A. 2 S-IC.B. 3 S-ID.B. 5 S-CP.A. 1 S-IC.B. 5 S-CP.B. 7 S-CP.A. 5 |  |

