Algebra 1 Mathematics Curriculum

Reading and Writing Standards

Marking Period	Reading/Writing Assignment	Chapter/Section
1	Chapter 1 Assessment Explanations	Chapter 1: Solving Linear Equations
2	Linear Functions - Error Analysis	Chapter 3: Graphing Linear Functions
3	Talk - Write - Solve Activity	Chapter 5: Solving Systems of Equations
4	End of Year Reflection	Chapter 1 - 6

Scoring Guide for Written Work

1 - Emerging	2 - Intermediate	3 - Proficient	4 - Exemplary
Conceptual Understanding Demonstrates almost no understanding of learning targets, and includes significant errors or deficiencies in thought. **Mathematical Skills** Gives incorrect answers and explanations and does not follow or implement correct processes or methods for the solution. **Work Habits** Does not complete the majority of tasks and/or work is unintelligible.	**Conceptual Understanding** Demonstrates some understanding of learning targets, potentially including several errors or deficiencies in thought. **Mathematical Skills** Gives partially correct answers and explanations, does not use ideal processes or methods, and work is not clear. **Work Habits** Completes almost all tasks but work is not organized or easily understood.	**Conceptual Understanding** Demonstrates nearly all understanding of learning targets, potentially including a minor error or deficiency in thought. **Mathematical Skills** Gives correct or nearly correct answers and explanations through solving equations, drawing graphs, identifying figures, etc., and may also lack some clarity. **Work Habits** Completes tasks thoroughly, and work is mostly organized and legible.	**Conceptual Understanding** Demonstrates complete understanding of learning targets. **Mathematical Skills** Gives clear and correct answers and explanations through solving equations, drawing graphs, identifying figures, etc.. **Work Habits** Completes tasks thoroughly, and work is organized, legible, and easily understood.

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Content Topics and Pacing

Topic	Duration	Learning Target(s)
Chapter 1 Solving Linear Equations	**3-4 weeks**	• Write and solve one-step linear equations. • Write and solve multi-step linear equations. • Use proportional reasoning and analyze units when solving problems. • Choose an appropriate level of accuracy when calculating with measurements. • Write and solve equations with variables on both sides. • Write and solve equations involving absolute value. • Solve literal equations for given variables.
Chapter 2 Solving Linear Inequalities	**4 weeks**	• Write inequalities and represent solutions of inequalities on number lines. • Write and solve inequalities using addition or subtraction. • Write and solve inequalities using multiplication or division. • Write and solve multi-step inequalities. • Write and solve compound inequalities. • Write and solve inequalities involving absolute value.
Chapter 3 Graphing Linear Functions	**4-5 weeks**	• Understand the concept of functions. • Describe characteristics of functions. • Identify and graph linear functions. • Understand and use function notation. • Graph and interpret linear equations written in standard form. • Find the slope of a line and use slope-intercept form.
Chapter 4 Writing Linear Functions	**3-4 weeks**	• Write equations of lines in slope-intercept form. • Write equations of lines in point-slope form. • Recognize and write equations of parallel and perpendicular lines. • Use scatter plots and lines of fit to describe relationships between

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		data. • Analyze lines of fit and find lines of best fit. • Understand the concept of arithmetic sequences.
Chapter 5 Solving Systems of Linear Equations	**4 weeks**	• Solve linear systems by graphing. • Solve linear systems by substitution. • Solve linear systems by elimination. • Solve linear systems with different numbers of solutions. • Solve equations by graphing. • Graph linear inequalities in two variables. • Graph and write systems of linear inequalities.
Chapter 6 Exponential Functions and Sequences	**3-4 weeks**	• Write equivalent expressions involving powers. • Write and evaluate an nth root of a number. • Graph and write exponential functions. • Write and graph exponential growth and decay functions. • Solve exponential equations. • Identify, extend, and graph geometric sequences. • Write terms of recursively defined sequences and write recursive rules for sequences.
Chapter 7 Polynomial Equations and Factoring	**4 weeks**	• Add and subtract polynomials. • Multiply and divide polynomials. • Use patterns to find products of polynomials. • Solve polynomial equations in factored form. • Factor polynomials of the form $x^2 + bx + c$. • Factor polynomials of the form $ax^2 + bx + c$. • Recognize and factor special products. • Factor a polynomial by grouping and recognize when a polynomial is factored completely.