SASD Curriculum Map **Content Area: Mathematics** **Course: 8th Grade Algebra 1**

UNIT Title/Focus	**Linear Equations / Expressions and Equations**	**TIME OF YEAR/LENGTH** *(E.G. Oct-Nov/3 weeks)*	**Sept-Nov / 12 Weeks** **Sept-May / 34 Weeks (Study Island Rotations)**
DRIVING QUESTION(S)	**How will you write, solve, and/or interpret multi-step equations, with and without determining the number of solutions?** **How will you write, solve and/or interpret a system of linear equations?**		
CONTENT VOCABULARY	**Cube Root; Distributive Property; Identity (Infinitely Many Real Solutions); Linear Equation; No Real Solutions; One Real Solution; Perfect Cube; Scientific Notation; Systems of Linear Equations.**		

TOPIC	ELIGIBLE CONTENT/ STANDARDS	OBJECTIVES	ASSESSMENT	RESOURCES
Linear Equations / Solve Linear Equations	**A1.1.2.1.1** Write, solve, and/or apply a linear equation (including problem situations). **A1.1.2.1.3** Interpret solutions to problems in the context of the problem situation. Note: Linear equations only. **A1.1.2.1.2** Use and/or identify an algebraic property to justify any step in an equation solving process. Note: Linear equations only. **M08.B-E.3.1.1** Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler	Students will be able to write, solve, and/or apply a linear equation.	Repetition/practice Frequent checks for understanding Quizzes In-Class Assignments "Anchor" Flashcards / End of Year "Anchors" Test "Vocabulary" Flashcards / frequent Vocabulary Quizzes DI Activities	Warm-up Openers Study Island Calculator Textbook "Notes" Handouts Worksheets "Peers" helping "Peers"

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Exponential Expressions / Square and Cube Roots	forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). **M08.B-E.3.1.2** Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. **M08.B-E.1.1.1** Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents). **Properties will be provided.**	Students will be able to apply one or more properties of integer exponents; and use square root and cube root symbols to represent solutions to equations.		

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Scientific Notation	**M08.B-E.1.1.2** Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of perfect squares (up to and including 12^2) and cube roots of perfect cubes (up to and including 5^3) without a calculator. **M08.B-E.1.1.3** Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another.	Students will be able to perform operations with numbers expressed in scientific notation and standard notation, with or without using a calculator.		

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	M08.B-E.1.1.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Express answers in scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology (e.g., interpret 4.7EE9 displayed on a calculator as 4.7×10^9).			
Systems of Linear Equations	**A1.1.2.2.1** Write and/or solve a system of linear equations (including problem situations)	Students will be able to write, and/or solve, and/or interpret a system of linear equations.		

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	using graphing, substitution, and/or elimination. Note: Limit systems to two linear equations. **A1.1.2.2.2** Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear equations. **M08.B-E.3.1.3** Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously. **M08.B-E.3.1.4** Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. **M08.B-E.3.1.5**			

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	Solve real-world and mathematical problems leading to two linear equations in two variables.			