



Algebra I Mathematics

Essential Resources

District Resources to Teach 100% of the TEKS located in the NBISD ECourse Resources, [Algebra I Online Textbook](#)
Link to TEKS: <https://tea.texas.gov/curriculum/teks/>

Spiraled TEKS

Process Skills Embedded in All Lessons: A.1(A) apply mathematics to problems arising in everyday life, society, and the workplace
A.1(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution A.1(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems

Timeline		1st Quarter Aug 24 - Oct 16, 2020 (38 Instructional Days)			2nd Quarter Oct 19 - Dec 18, 2020 (40 Instructional Days)			
Unit		Unit 01 Solving Equations and Inequalities	Unit 02 Introduction to Functions	Unit 03 Rate of Change	Unit 04 Graphing Linear Relationships	Unit 05 Describing Linear Relationships		
Big Idea	Current Grade	Simplify expressions using the properties of real numbers, solve multi-step equations and inequalities, write equations and inequalities to represent real world situations, solve mathematical and scientific formulas for a specified variable	Evaluate functions written in function notation, find the domain and range for linear functions both continuous and discrete, determine whether a given relationship is a function	Calculate the rate of change from a graph, table, or equation. Calculate the slope of a line given a table, graph, two points or an equation written in slope-intercept form, standard form, or point slope form. Use the slope and one point on the line to create a graph of a linear function.	Graph linear functions from a table of values, from an equation in slope intercept form, standard form, or point slope form. Describe the effects of transformations on $y = f(x)$, determine whether two lines are parallel, perpendicular or neither by examining their slope.	Write an equation to describe a linear function given a table, graph, or verbal description. Write an equation in slope intercept form, standard form, or point slope form if given the slope and one point on the line or two points on the line. Write equations for parallel and perpendicular line. Write equations for horizontal and vertical lines and determine whether their slope is zero or undefined. Represent data in a scatterplot and write a linear function which could provide a reasonable fit to the data. Write and solve direct variation equations to represent a real world situation. Identify the terms of an arithmetic sequence and write a formula for the nth term of an arithmetic sequence.		
	Previous Grade: 7th or 8th Grade Math	In 7th grade students learned to solve 2 step equations, but Algebra I will be their first exposure to solving equations with variables on both sides, equations involving parentheses, and solving for specified variables. In 7th grade students worked with the constant of proportionality and learned to sketch graphs in $y = mx + b$ form. Algebra I will continue to build on this understanding.			In 7th grade, students were introduced to graphing linear functions and identify an equation from a table of values. Algebra I will be their first exposure to transformations of linear functions, the slopes of parallel and perpendicular lines, writing an equation of a line given the point and the slope or given two points. In 7th grade, students were introduced to scatter plots and the idea of positive and negative correlation. Algebra I will be their first exposure to writing the equation for a line of best fit			
TEKS	Current Grade	A.5A, A.12E, A.5B	A.2A, A.12A, A.12B	A.3B, A.3A	2G, 2A, 2C, 2B, 2D, 3A, 3B, 3C, 2E, 3E	2G, 2A, 2C, 2B, 2D, 3A, 3B, 3C, 2E, 3E, 4A, 4B, 4C		
	Previous Grade: 7th or 8th Math	All Previous TEKS were covered Previous to Covid 19			All Previous TEKS were covered Previous to Covid 19			
Timeline		3rd Quarter Jan 4 - March 12, 2021 (48 Instructional Days)			4th Quarter March 22 - May 27, 2021 (48 Instructional Days)			
Unit		Unit 06 Systems of Equations and Inequalities	Unit 07 Simplifying Polynomial Expressions	Unit 08 Factoring Polynomials	Unit 09 Solving Quadratic Equations	Unit 10 Graphing Quadratic Functions	Unit 11 Exponential Functions	Unit 12 STAAR Review
Big Idea	Current Grade	Solve systems of equations by graphing, substitution, and elimination. Write systems of equations to describe real world problems, graph linear inequalities in two variables, graph systems of linear inequalities in two variables	Use the properties of monomials to simplify monomial expressions, add/subtract/multiply/divide polynomials	Factor polynomial expressions including gcf, difference of two squares, perfect square trinomials, and polynomials of the form $ax^2 + bx + c$ where $a > 1$	simplify radical expressions, Solve Quadratic equations using factoring, square root property, quadratic formula, and completing the square	Graph quadratic functions and identify their critical attributes such as domain, range, max, min, vertex, axis of symmetry, explore transformations of quadratic functions, solve real world problems involving the graphs of quadratic functions, model quadratic data and write a quadratic model to fit the data.	Graph exponential functions and identify critical attributes, solve and graph problems involving exponential growth and decay, write exponential functions for real world situations, explore geometric sequences and their relationship to exponential functions, model data and determine whether it is linear, quadratic, or exponential	Released STAAR TESTS
	Previous Grade: 7th or 8th Math	The concepts covered in the 2nd semester will all be new to students and represent their first exposure to systems of equations, inequalities in two variables, polynomials, and quadratic equations			The concepts of the 4th nine weeks will be students first exposure to the graphs of quadratic and exponential functions			
TEKS	Current Grade	A.3F, A.5C, A.2I, A.3G, A.2H, A.3D, A.3H	11B, 10A, 10B, 10C, 10D	10E	8A, 11A	6A, 6B, 7A, 7C, 8C, 7B	9A, 9B, 9C, 9D, 9E, 4A	All TEKS with an emphasis on Readiness and Frequently Tested TEKS
	Previous Grade: 7th or 8th Math	All Previous TEKS were covered Previous to Covid 19			All Previous TEKS were covered Previous to Covid 19			