Algebra 1

2018-2019

Course Code: 120031001

Algebra 1 Course Code: 120031001 Pacing Guide

District racing

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Algebra 1

1 st Nine Weeks	2 nd Nine Weeks	3 rd Nine Weeks	4 th Nine Weeks
 I. Quantities and Modeling A. Quantitative Reasoning B. Algebraic Models STEM Lessons - Model Eliciting Activities Looking for the best Employment Option CollegeReview.com Efficient Storage II. Understanding Functions A. Functions and Models B. Patterns and Sequences STEM Lessons - Model Eliciting Activities To The Limit My First Credit Card Plants vs. Pollutants The Friendly Confines or The Nat III. Linear Functions, Equations, and Inequalities – Part A A. Linear Functions B. Forms of Linear Equations 	 IV. Linear Functions, Equations, and Inequalities – Part B A. Linear Equations and Inequalities STEM Lessons - Model Eliciting Activities Alternative Fuel Systems Preserving Our Marine Ecosystems Hybrid-Electric Vehicles vs. Gasoline-Powered Vehicles V. Statistical Models A. Multi-Variable Categorical Data One-Variable Data Distributions C. Linear ModelIng and Regression STEM Lessons - Model Eliciting Activities The Music Is On and Popping! Two-way Tables Modeling with Linear Systems B. Modeling with Linear Systems STEM Lessons - Model Eliciting Activities	 VII. Exponential Relationships A. Rational Exponents and Radicals B. Geometric Sequences and Exponential Functions C. Exponential Equations and Models STEM Lessons - Model Eliciting Activities The Friendly Confines or The Nat - who has the best ballpark? VIII. Polynomial Operations A. Adding and Subtracting Polynomials B. Multiplying Polynomials IX. Quadratic Functions A. Graphing Quadratic Functions B. Connecting Intercepts, Zeros, and Factors C. Graphing Polynomial Functions 	 X. Quadratic Equations and Modeling A. Using Factors to Solve Quadratic Equations B. Using Square Roots to Solve Quadratic Equations C. Linear, Exponential, and Quadratic Models STEM Lessons - Model Eliciting Activities • Ranking Sports Players (Quadratic Equations Practice) XI. EOC Review XII. Functions and Inverses A. Piecewise-Defined Functions B. Understanding Inverse Functions C. Graphing Square Root Functions D. Graphing Cube Root Functions
Total Days Allotted for Instruction, Testing, and "Catch-up" Days:	Total Days Allotted for Instruction, Testing, and "Catch-up" Days:	Total Days Allotted for Instruction, Testing, and "Catch-up" Days:	Total Days Allotted for Instruction, Testing, and "Catch-up" Days:
T B Dates Topic I 14 7 08/20-09/07 Topic II 18 9 09/11-10/05 Topic III 14 7 10/08-10/25 Total 46 23	T B Dates Topic IV 9 4 10/29-11/09 Topic V 16 8 11/13-12/07 Topic VI 19 10 12/10-01/17 Total 44 22	T B Dates Topic VII 19 9 01/22-02/15 Topic VIII 8 4 02/19-02/28 Topic IX 16 8 03/01-03/22 Total 43 21	T B Dates Topic X 16 8 04/01-04/23 Topic XI 5 2 04/24-04/30 Topic XII 26 13 05/01-06/06 Total 47 23 23

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STANDARDS AT A GLANCE

1 st Nine Weeks	2 nd Nine Weeks	3 rd Nine Weeks	4 th Nine Weeks
 I. Quantities and Modeling MAFS.912.A-SSE.1.1a MAFS.912.A-CED.1.1 MAFS.912.A-REI.1.1 MAFS.912.A-REI.2.3 MAFS.912.N-Q.1.1* MAFS.912.N-Q.1.2* MAFS.912.N-Q.1.3* I. Understanding Functions MAFS.912.F-BF.1.1a MAFS.912.F-IF.1.1 MAFS.912.F-IF.1.2 MAFS.912.F-IF.1.3 MAFS.912.F-IF.2.4 MAFS.912.F-IF.2.5 III. Linear Functions, Equations, and Inequalities – Part A MAFS.912.F-IF.2.3 MAFS.912.F-LE.1.1a,b MAFS.912.F-LE.1.1a,b MAFS.912.F-LE.1.2 MAFS.912.F-LE.1.3 MAFS.912.F-LE.3 III. Linear Functions, Equations, and Inequalities – Part A MAFS.912.F-LE.1.2 MAFS.912.F-LE.1.2 MAFS.912.F-LE.3 MAFS.912.F-LE.3 MAFS.912.F-LE.3 MAFS.912.F-LE.3 	 IV. Linear Functions, Equations, and Inequalities – Part B MAFS.912.A-CED.1.3 MAFS.912.A-REI.4.11 MAFS.912.A-REI.4.12 MAFS.912.S-ID.3.7 V. Statistical Models MAFS.912.S-ID.1.1 MAFS.912.S-ID.1.2 MAFS.912.S-ID.2.5 MAFS.912.S-ID.2.6 MAFS.912.S-ID.3.8 MAFS.912.S-ID.3.9 VI. Linear Systems MAFS.912.A-REI.3.5 MAFS.912.A-REI.3.6 MAFS.912.A-REI.4.12 	 VI. Exponential Relationships MAFS.912.N-RN.1.1 MAFS.912.N-RN.2.3 MAFS.912.F-BF.1.1a MAFS.912.F-BF.2.3 MAFS.912.F-LE.1.2 MAFS.912.F-LE.1.2 MAFS.912.F-LE.3.7e MAFS.912.F-LF.3.7e MAFS.912.A-CED.1.1 MAFS.912.A-SSE.2.3c MAFS.912.S-ID.2.6 VIII. Polynomial Operations MAFS.912.A-SSE.1.1b MAFS.912.A-SSE.1.2 MAFS.912.A-APR.1.1 IX. Quadratic Functions MAFS.912.F-IF.2.3 MAFS.912.F-IF.3.7a MAFS.912.F-IF.3.7a MAFS.912.F-IF.3.7a MAFS.912.F-IF.3.7a MAFS.912.A-APR.2.3 MAFS.912.A-APR.2.3 MAFS.912.A-REI.2.4 	 X. Quadratic Equations and Modeling MAFS.912.A-CED.1.2 MAFS.912.A-SSE.1.2 MAFS.912.A-SSE.2.3a MAFS.912.A-REI.2.4a MAFS.912.A-REI.2.4b MAFS.912.F-LE.1.1b XI. EOC REVIEW XII. Functions and Inverses MAFS.912.A-REI.2.3 MAFS.912.F-IF.3.7b MAFS.912.F-IF.3.7c MAFS.912.F-BF.2.4
Total Days Allotted for Instruction, Testing, and "Catch-up" Days:	Total Days Allotted for Instruction, Testing, and "Catch-up" Days:	Total Days Allotted for Instruction, Testing, and "Catch-up" Days:	Total Days Allotted for Instruction, Testing, and "Catch-up" Days:
T B Dates Topic I 14 7 08/20-09/07 Topic II 18 9 09/11-10/05 Topic III 14 7 10/08-10/25	T B Dates Topic IV 9 4 10/29-11/09 Topic V 16 8 11/13-12/07 Topic VI 19 10 12/10-01/17	T B Dates Topic VII 19 9 01/22-02/15 Topic VIII 8 4 02/19-02/28 Topic IX 16 8 03/01-03/22	T B Dates Topic X 16 8 04/01-04/23 Topic XI 5 2 04/24-04/30 Topic XII 26 13 05/01-06/06

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Algebra 1 2018-2019 Course Code: 120031001 Algebra 1 Intensive Math – H.M.H. Resources Algebra 1 Core – H.M.H. Resources Unit Resources Unit Resources Unit Tests – A, B, and C Math in Careers Video Performance Assessment Assessment Readiness (Mixed Review) Module Resources Module Resources Module Test B Module Test Modified Common Core Assessment Readiness RTI Tier 2 – Strategic Intervention Advanced Learners - Challenge Worksheets RtL Skills Module Pre-Test, Skills and RTI Post Test, Skills Worksheets RTI Tier 3 – Intensive Intervention Worksheets Lesson Resources Lesson Resources Lessons - Work text/Interactive Student Edition Practice and Problem Solving: D (modified) Practice and Problem Solving: A/B RTI Tier 1 – Lesson Intervention Worksheets **RtI** Advanced Learners - Practice and Problem Solving: C Reteach Reading Strategies AND Success for English Learners **PMT Preferences PMT Preferences** Auto-assign for intervention and enrichment: NO Auto-assign for intervention and enrichment: YES Daily Intervention Test and Quizzes Homework Standard-Based Intervention **Course Intervention**





Algebra 1 2018	ebra 1 2018-2019		Course Code: 120031001			
YEAR AT A GLAN	YEAR AT A GLANCE ACADEMIC SUPPORT					
REPORTING CATEGORY: ALGEBRA AND MODELING % of Test: 41%			2018 Avera	2018 Average % Correct: 37%		
Standards			Previous Grade Standards	Algebra I Topic(s)	Algebra II Standard	
MAFS.912.A-APR.1.1 Understand that polynomials form a system analogous to the integers, namely, they ar subtraction, and multiplication; add, subtract, and multiply polynomials.	e closed unde	er the operations of addition,	MAFS.6.EE.1.3 MAFS.6.EE.1.4 MAFS.7.EE.1.1 MAFS.8.EE.1.1	Topic IX	х	
$\frac{\text{MAFS.912.A-CED.1.1}}{Create equations and inequalities in one variable and use them to solve problems. Include quadratic functions, and simple rational, absolute, and exponential functions. \star$	lude equation	s arising from linear and	MAFS.7.EE.2.4 MAFS.8.EE.3.7	Topic I Topic VIII	х	
MAFS.912.A-REI.2.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.			MAFS.7.EE.2.4 MAFS.8.EE.3.7	Topic I	х	
$\frac{MAFS.912.A-CED.1.4}{Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR to highlight resistance R. ★$						
MAFS.912.A-CED.1.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★			MAFS.8.EE.3.8 MAFS.8.F.1.3 MAFS.8.F.2.4	Topic III Topic XII	х	
MAFS.912.A-REI.3.5 Prove that, given a system of two equations in two variables, replacing one equation multiple of the other produces a system with the same solutions.	on by the sum	of that equation and a	MAFS.8.EE.3.8			
MAFS.912.A-REI.3.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.			MAFS.8.EE.3.8	Topic VI	х	
MAFS.912.A-REI.4.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.						
MAFS.912.A-CED.1.3 Represent constraints by equations or inequalities, and by systems of equations and/o viable or non-viable options in a modeling context. For example, represent inequalities on combinations of different foods. ★	r inequalities, describing nu	and interpret solutions as tritional and cost constraints		Topic VI	x	

Algebra 1 2018-2019	Course Code: 120031001			
YEAR AT A GLANCE ACADEMIC SUPP	PORT			
REPORTING CATEGORY: ALGEBRA AND MODELING %	% of Test: 41%	2018 Avera	age % Correct: 3	37%
Standards		Previous Grade Standards	Algebra I Topic(s)	Algebra II Standard
MAFS.912.A-REI.1.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previor from the assumption that the original equation has a solution. Construct a viable argument to justify a solution	ous step, starting method.	MAFS.7.EE.2.4 MAFS.8.EE.3.7	Topic I	x
 MAFS.912.A-REI.2.4 Solve quadratic equations in one variable. a) Use the method of completing the square to transform any quadratic equation in x into an equation of that has the same solutions. Derive the quadratic formula from this form. b) Solve quadratic equations by inspection (e.g., for x² = 49), taking square roots, completing the square formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic complex solutions and write them as a ± bi for real numbers a and b. 	f the form (x – p)² = q e, the quadratic c formula gives	MAFS.7.EE.1.1 MAFS.8.EE.1.2	Topic X Topic Xi	x
MAFS.912.A-REI.4.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ interset of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, m values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, ration exponential, and logarithmic functions. \star	ect are the solutions nake tables of nal, absolute value,	MAFS.8.EE.3.8	Topic III	x
MAFS.912.A-REI.4.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordi forming a curve (which could be a line).	inate plane, often	MAFS.8.EE.2.5	Topic IV	
$\frac{\text{MAFS.912.A-SSE.2.3}}{\text{Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity representation of the expression. ★a. Factor a quadratic expression to reveal the zeros of the function it defines.b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the functc. Use the properties of exponents to transform expressions for exponential functions. For example therewritten as \left(1.15^{\frac{1}{12}}\right)^{12t} \approx 1.012^{12t} to reveal the approximate equivalent monthly interest rate if the approximate equivalent monthly interest equivalent equ$	resented by the tion it defines. e expression can be annual rate is 15%.	MAFS.6.EE.1.3 MAFS.7.EE.1.1 MAFS.8.EE.1.1	Topic VIII Topic XI Topic XII	x
 MAFS. 912.A-SSE.1.1 Interpret expressions that represent a quantity in terms of its context. ★ a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example product of P and a factor not depending on P. 	le, interpret as the	MAFS.6.EE.1.2 MAFS.7.EE.1.2	Topic I Topic IX	x

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YEAR AT A GLANCE ACADEMIC SUPPORT					
	REPORTING CATEGORY: ALGEBRA AND MODELING	% of Test: 41%	2018 Avera	age % Correct: 3	37%
Standards			Previous Grade Standards	Algebra I Topic(s)	Algebra II Standard
MAFS.912.A-SSE.1.2 Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$, as $(x^2)^2 - (y^2)^2$ thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.			MAFS.6.EE.1.3 MAFS.7.EE.1.1	Topic IX Topic XI Topic XII	х

YEAR AT A GLANCE ACADEMIC SUPPORT				
REPORTING CATEGORY: FUNCTIONS AND MODELING	% of Test: 40%	2018 Aver	age % Correct:	40%
Standards		Previous Grade Standards	Algebra I Topic(s)	Algebra II Standard
MAFS.912.F-BF.2.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.			Topic III Topic VIII Topic X	x
MAFS.912.F-IF.1.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.				
MAFS.912.F-IF.1.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.			Topic II	
MAFS.912.F-IF.2.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble engines in a factory, then the positive integers would be an appropriate domain for the function. \star			Topic II Topic VIII	х
MAFS.912.F-IF.2.4 For a function that models a relationship between two quantities, interpret key features of graphs and quantities, and sketch graphs showing key features given a verbal description of the relationship. Key intervals where the function is increasing, decreasing, positive, or negative; relative maximums and n behavior; and periodicity. ★	I tables in terms of the y features include: intercepts; ninimums; symmetries; end	MAFS.8.F.2.5	Торіс II Торіс Х	Х

Algebra 1 2018-2019		Course Co	de: 120031	001	
YE	AR AT A GLANCE ACADE	AIC SUPPORT			
REPORTING CATEGORY: FUNCTIONS AND MOD	DELING	% of Test: 40%	2018 Aver	age % Correct:	40%
Standards			Previous Grade Standards	Algebra I Topic(s)	Algebra II Standard
MAFS.912.F-IF.3.9 Compare properties of two functions each represented in a different by verbal descriptions). For example, given a graph of one quadrati which has the larger maximum.	MAFS.912.F-IF.3.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.			Topic III	х
MAFS.912.F-IF.2.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. ★			MAFS.8.F.2.4	Topic III	х
MAFS.912.S-ID.3.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. ★			MAFS.8.SP.1.3	Topic IV	
 MAFS.912.F-IF.3.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. b. Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as y = (1.02)^t, y = (0.97)^t, y = (1.01)^{12t}, y = (0.97)^t, and classify them as representing exponential growth or decay. 				Topic VIII Topic X	х
MAFS.912.A-APR.2.3 Identify zeros of polynomials when suitable factorizations are availa function defined by the polynomial.	ble, and use the zeros to cor	nstruct a rough graph of the	MAFS.7.EE.1.1	Topic X	х
 MAFS. 912.F-IF.3.7 Graph functions expressed symbolically and show key features of the for more complicated cases. ★ a. Graph linear and quadratic functions and show intercepts, max b. Graph square root, cube root, and piecewise-defined functions. c. Graph polynomial functions, identifying zeros when suitable face d. Graph rational functions, identifying zeros and asymptotes when behavior. (<i>Algebra II</i>) e. Graph exponential and logarithmic functions, showing intercept period, midline, and amplitude, and using phase shift. 	he graph, by hand in simple o ima, and minima. , including step functions and ctorizations are available, and en suitable factorizations are a ts and end behavior, and trigo	cases and using technology I absolute value functions. d showing end behavior. available, and showing end onometric functions, showing	<u>MAFS.8.EE.2.5</u> <u>MAFS.8.F.1.3</u>	Topic III Topic VIII Topic X	х

Algebra 1	Algebra 1 2018-2019		Course Code: 120031001			
YEAR AT A GLANCE ACADEMIC SUPPORT						
REPORTING CATEGORY: FUNCTIONS	REPORTING CATEGORY: FUNCTIONS AND MODELING % of Test: 40%			age % Correct:	40%	
S	tandards		Previous Grade Standards	Algebra I Topic(s)	Algebra II Standard	
 MAFS.912.F-LE.1.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. ★ a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. 			<u>MAFS.8.F.1.3</u> <u>MAFS.8.F.2.4</u>	Topic III Topic VIII Topic XII		
MAFS.912.F-LE.2.5 Interpret the parameters in a linear or exponential function in terms of a context. \star				Topic III Topic VIII	х	
MAFS.912.F-LE.1.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).*			MAFS.8.F.2.4	Topic III Topic VIII		
 MAFS.912.F-BF.1.1 Write a function that describes a relationship between two quantities. ★ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model. c. Compose functions. For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time. 			<u>MAFS.8.F.2.4</u>	Topic II Topic VIII	х	
MAFS. 912.F-IF.1.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \ge 1$.				Topic II		
$\frac{MAFS.912.F-LE.1.3}{Observe using graphs and tables that a quantity increasing exquadratically, or (more generally) as a polynomial function. +$	ponentially eventually exceeds a quar	ntity increasing linearly,		Topic VIII		

Algebra 1	Algebra 1 2018-2019		Course Co	de: 120031	001	
	YEAR AT A GLANCE ACADEMIC SUPPORT					
REPORTING CATEGORY: STATISTICS ANI	D THE NUMBER SYSTEM	% of Test: 19%	2018 Aver	age % Correct:	27%	
	Standards		Previous Grade Standards	Algebra I Topic(s)	Algebra II Standard	
MAFS.912.N-RN.1.2 Rewrite expressions involving radicals and rational exponer	nts using the properties of exponents.				x	
MAFS.912.N-RN.2.3 Explain why the sum or product of two rational numbers is irrational; and that the product of a nonzero rational r	s is rational; that the sum of a rational nu number and an irrational number is irratio	mber and an irrational number onal.	MAFS.8.NS.1.1	Topic VII		
<u>MAFS.912.N-RN.1.1</u> Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define to be the cube root of 5 because we want $(5^{\frac{1}{3}})^3 = 5(\frac{1}{3})^3$ to hold, so $5(\frac{1}{3})^3$ must equal 5.			MAFS.8.EE.1.1 MAFS.8.EE.1.2		x	
MAFS.912.S-ID.1.1 Represent data with plots on the real number line (dot plots	, histograms, and box plots). \star		MAFS.6.SP.2.4	Topic V		
MAFS.912.S-ID.1.2 Use statistics appropriate to the shape of the data distribution standard deviation) of two or more different data sets. ★	on to compare center (median, mean) an	d spread (interquartile range,	MAFS.6.SP.1.2 MAFS.6.SP.2.5			
MAFS.912.S-ID.1.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). ★			MAFS.6.SP.2.5	Topic V		
MAFS.912.S-ID.2.5 Summarize categorical data for two categories in two-way fu (including joint, marginal, and conditional relative frequencies	requency tables. Interpret relative freque es). Recognize possible associations and	ncies in the context of the data t trends in the data. \star	MAFS.8.SP.1.4	Topic V		
 MAFS.912.S-ID.2.6 Represent data on two quantitative variables on a scatter pl a. Fit a function to the data; use functions fitted to data to choose a function suggested by the context. Emphasiz b. Informally assess the fit of a function by plotting and an c. Fit a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot that suggests a linear function for a scatter plot function for a scatter plot that suggests a linear function for a scatter plot function for a	ot, and describe how the variables are re solve problems in the context of the data e linear, and exponential models. alyzing residuals. ear association.	elated. ★ a. Use given functions or	MAFS.8.SP.1.1 MAFS.8.SP.1.2 MAFS.8.SP.1.3	Topic V		
MAFS.912.S-ID.3.8 Compute (using technology) and interpret the correlation MAFS.912.S-ID.3.9 Distinguish between correlation and causation. ★	on coefficient of a linear fit. \star					

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	WIDA CAN DO Descriptors: Grade Level Cluster 9-12				
	Level 1 Entering	Level 2 Emerging	Level 3 Developing	Level 4 Expanding	Level 5 Bridging
LISTENING	 Point to or show basic parts, components, features, characteristics, and properties of objects, organisms, or persons named orally Match everyday oral information to pictures, diagrams, or photographs Group visuals by common traits named orally (e.g., "These are polygons.") Identify resources, places, products, figures from oral statements, and visuals 	 Match or classify oral descriptions to real-life experiences or visually- represented, content- related examples Sort oral language statements according to time frames Sequence visuals according to oral directions 	 Evaluate information in social and academic conversations Distinguish main ideas from supporting points in oral, content-related discourse Use learning strategies described orally Categorize content-based examples described orally 	 Distinguish between multiple meanings of oral words or phrases in social and academic contexts Analyze content-related tasks or assignments based on oral discourse Categorize examples of genres read aloud Compare traits based on visuals and oral descriptions using specific and some technical language 	 Interpret cause and effect scenarios from oral discourse Make inferences from oral discourse containing satire, sarcasm, or humor Identify and react to subtle differences in speech and register (e.g., hyperbole, satire, comedy) Evaluate intent of speech and act accordingly
SPEAKING	 Answer yes/no or choice questions within context of lessons or personal experiences Provide identifying information about self Name everyday objects and pre- taught vocabulary Repeat words, short phrases, memorized chunks of language 	 Describe persons, places, events, or objects Ask WH- questions to clarify meaning Give features of content- based material (e.g., time periods) Characterize issues, situations, regions shown in illustrations 	 Suggest ways to resolve issues or pose solutions Compare/contrast features, traits, characteristics using general and some specific language Sequence processes, cycles, procedures, or events Conduct interviews or gather information through oral interaction Estimate, make predictions or pose hypotheses from models 	 Take a stance and use evidence to defend it Explain content-related issues and concepts Compare and contrast points of view Analyze and share pros and cons of choices Use and respond to gossip, slang, and idiomatic expressions Use speaking strategies (e.g., circumlocution) 	 Give multimedia oral presentations on grade-level material Engage in debates on content- related issues using technical language Explain metacognitive strategies for solving problems (e.g., "Tell me how you know it.") Negotiate meaning in pairs or group discussions
READING	 Match visual representations to words/phrases Read everyday signs, symbols, schedules, and school-related words/phrases Respond to WH- questions related to illustrated text Use references (e.g., picture dictionaries, bilingual glossaries, technology) 	 Match data or information with its source or genre Classify or organize information presented in visuals or graphs Follow multi-step instructions supported by visuals or data Match sentence-level descriptions to visual representations Compare content-related features in visuals and graphics Locate main ideas in a series of related sentences 	 Apply multiple meanings of words/phrases to social and academic contexts Identify topic sentences or main ideas and details in paragraphs Answer questions about explicit information in texts Differentiate between fact and opinion in text Order paragraphs or sequence information within paragraphs 	 Compare/contrast authors' points of view, characters, information, or events Interpret visually- or graphically- supported information Infer meaning from text Match cause to effect Evaluate usefulness of data or information supported visually or graphically 	 Interpret grade-level literature Synthesize grade-level expository text Draw conclusions from different sources of informational text Infer significance of data or information in grade-level material Identify evidence of bias and credibility of source
WRITING	 Label content-related diagrams, pictures from word/phrase banks Provide personal information on forms read orally Produce short answer responses to oral questions with visual support Supply missing words in short sentences 	 Make content-related lists of words, phrases, or expressions Take notes using graphic organizers or models Formulate yes/no, choice and WH- questions from models Correspond for social purposes (e.g., memos, e-mails, notes) 	 Complete reports from templates Compose short narrative and expository pieces Outline ideas and details using graphic organizers Compare and reflect on performance against criteria (e.g., rubrics) 	 Summarize content-related notes from lectures or text Revise work based on narrative or oral feedback Compose narrative and expository text for a variety of purposes Justify or defend ideas and opinions Produce content-related reports 	 Produce research reports from multiple sources Create original pieces that represent the use of a variety of genres and discourses Critique, peer-edit and make recommendations on others' writing from rubrics Explain, with details, phenomena, processes, procedures

2018-2019

	Mathematical Practices
MAFS.K12.MP.1.1	Make sense of problems and persevere in solving them.
	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning
MAFS.K12.MP.2.1	Reason abstractly and quantitatively.
	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning
MAFS.K12.MP.3.1	Construct viable arguments and critique the reasoning of others.
	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning

Algebra 1

Algebra 1	2018-2019	Course Code: 120031001
	Mathematical Practices	
MAFS.K12.MP.4.1	Model with mathematics.	
	Mathematically proficient students can apply the mathematics they know to solve problems arising grades, this might be as simple as writing an addition equation to describe a situation. In middle g plan a school event or analyze a problem in the community. By high school, a student might use g describe how one quantity of interest depends on another. Mathematically proficient students who assumptions and approximations to simplify a complicated situation, realizing that these may need quantities in a practical situation and map their relationships using such tools as diagrams, two-wa analyze those relationships mathematically to draw conclusions. They routinely interpret their mat on whether the results make sense, possibly improving the model if it has not served its purpose.	g in everyday life, society, and the workplace. In early grades, a student might apply proportional reasoning to geometry to solve a design problem or use a function to b can apply what they know are comfortable making d revision later. They are able to identify important ay tables, graphs, flowcharts and formulas. They can thematical results in the context of the situation and reflect
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning	
<u>MAPS.K12.MP.3.1</u>	Mathematically proficient students consider the available tools when solving a mathematical probl models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical students are sufficiently familiar with tools appropriate for their grade or course to make sound der recognizing both the insight to be gained and their limitations. For example, mathematically profici solutions generated using a graphing calculator. They detect possible errors by strategically using making mathematical models, they know that technology can enable them to visualize the results compare predictions with data. Mathematically proficient students at various grade levels are able such as digital content located on a website, and use them to pose or solve problems. They are a understanding of concepts.	em. These tools might include pencil and paper, concrete package, or dynamic geometry software. Proficient cisions about when each of these tools might be helpful, ient high school students analyze graphs of functions and gestimation and other mathematical knowledge. When of varying assumptions, explore consequences, and to identify relevant external mathematical resources, ble to use technological tools to explore and deepen their
	Context Complexity: Level 2: Basic Application of Skills & Concepts	
<u>MAFS.K12.MP.6.1</u>	Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear dereasoning. They state the meaning of the symbols they choose, including using the equal sign corresponding units of measure, and labeling axes to clarify the correspondence with quantities in a prinumerical answers with a degree of precision appropriate for the problem context. In the elementate explanations to each other. By the time they reach high school they have learned to examine clair Context Complexity: Level 3: Strategic Thinking & Complex Reasoning	efinitions in discussion with others and in their own nsistently and appropriately. They are careful about roblem. They calculate accurately and efficiently, express ary grades, students give carefully formulated ms and make explicit use of definitions.

MAFS.K12.MP.7.1Look for and make use of structure.MAFS.K12.MP.7.1Look for and make use of structure.Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well-remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression x² + 9x + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 - 3(x - y)² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.	Algebra 1	2018-2019	Course Code: 120031001		
MAFS.K12.MP.7.1Look for and make use of structure.Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well-remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression x² + 9x + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 - 3(x - y)² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.	Mathematical Practices				
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 x 8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.	MAFS.K12.MP.7.1	Look for and make use of structure.			
		Mathematically proficient students look closely to discern a pattern or structure. Young students, if same amount as seven and three more, or they may sort a collection of shapes according to how 8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive propose the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a get auxiliary line for solving problems. They also can step back for an overview and shift perspective. algebraic expressions, as single objects or as being composed of several objects. For example, the times a square and use that to realize that its value cannot be more than 5 for any real numbers x	for example, might notice that three and seven more is the y many sides the shapes have. Later, students will see 7 x perty. In the expression $x^2 + 9x + 14$, older students can ometric figure and can use the strategy of drawing an . They can see complicated things, such as some hey can see $5 - 3(x - y)^2$ as 5 minus a positive number x and y.		
Context Complexity: Level 2: Basic Application of Skills & Concepts		Context Complexity: Level 2: Basic Application of Skills & Concepts			
MAFS.K12.MP.8.1 Look for and express regularity in repeated reasoning.	MAFS.K12.MP.8.1	Look for and express regularity in repeated reasoning.			
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through $(1, 2)$ with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.		Mathematically proficient students notice if calculations are repeated, and look both for general m might notice when dividing 25 by 11 that they are repeating the same calculations over and over a paying attention to the calculation of slope as they repeatedly check whether points are on the line might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel whet $1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As the students maintain oversight of the process, while attending to the details. They continually evaluate	hethods and for shortcuts. Upper elementary students again, and conclude they have a repeating decimal. By e through (1, 2) with slope 3, middle school students en expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - ey work to solve a problem, mathematically proficient the reasonableness of their intermediate results.$		
Context Complexity: Level 3: Strategic Thinking & Complex Reasoning		Context Complexity: Level 3: Strategic Thinking & Complex Reasoning			

Algebra 1

2018-2019

	Literacy Standards
LAFS.910.RST.1.3	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
	Context Complexity: Level 2: Basic Application of Skills & Concepts
LAFS.910.RST.2.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics. Context Complexity: Level 2: Basic Application of Skills & Concepts
LAFS.910.RST.3.7	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
	Context Complexity: Level 2: Basic Application of Skills & Concepts
LAFS.1112.WHST.1.1	 Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.
LAFS.1112.WHST.1.2	 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

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	Literacy Standards		
LAFS.1112.WHST.2.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning		
LAFS.1112.WHST.3.9	Draw evidence from informational texts to support analysis, reflection, and research.		
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning		
LAFS.910.RST.2.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases relevant to grades 9–10 texts and topics.	s as they are used in a specific scientific or technical context	
	Context Complexity: Level 2: Basic Application of Skills & Concepts		
LAFS.910.SL.1.1	 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in grout topics, texts, and issues, building on others' ideas and expressing their own clearly and personal. Come to discussions prepared having read and researched material under study; explicit texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned eb. Work with peers to set rules for collegial discussions and decision-making (e.g., information alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion; and clarify, verify, or challenge ideas and conclud. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disativiews and understanding and make new connections in light of the evidence and reasonal discussions. 	ups, and teacher-led) with diverse partners on grades 9–10 uasively. citly draw on that preparation by referring to evidence from exchange of ideas. al consensus, taking votes on key issues, presentation of cussion to broader themes or larger ideas; actively sions. greement, and, when warranted, qualify or justify their own ning presented.	
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning		
LAFS.910.SL.1.2	Integrate multiple sources of information presented in diverse media or formats (e.g., visually accuracy of each source.	, quantitatively, orally) evaluating the credibility and	
LAFS 910 SL 1 3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying a	any fallacious reasoning or exaggerated or distorted	
	evidence.		
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning		
LAFS.910.SL.2.4	Present information, findings, and supporting evidence clearly, concisely, and logically such a organization, development, substance, and style are appropriate to purpose, audience, and the substance of the sub	that listeners can follow the line of reasoning and the task.	
	Context Complexity: Level 3: Strategic Thinking & Complex Reasoning		

District Pacing Guide

Algebra 1

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