

Year at a Glance: Math - Algebra 1 Student Learning Objectives Clustered by Unit

DOCUMENT KEY: WALT (That) ... indicates a concept. WALT (To) ... indicates a skill.																
Key	Focus - Explicit Instruction and Assessment		Unit 1			Unit 2				Unit 3			Unit 4			
	Revisited and Reinforced		Modeling with Linear Equations and Inequalities			Linear and Exponential Modelling: Functions and Bivariate Statistics				Quadratic Modelling			Other Nonlinear Graphs and One Variable Statistics			
	Not Addressed in the Unit															
NJSLS F.IF.C.8	SLO		Units	1A	1B	1C	2A	2B	2C	2D	3A	3B	3C	4A	4B	
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. <i>For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.</i>	WALT use the process of completing the square in a quadratic function to show extreme values and symmetry of the graph and interpret these in the context of the problem		3													
F.IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.</i>	WALT compare properties of two quadratic functions each represented in different ways (numerically, graphically, algebraically, or verbally)		3													
	WALT compare properties of two exponential functions each represented in different ways (numerically, graphically, algebraically, or verbally)		2													
BUILDING FUNCTIONS																
F.BF.A.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.	WALT write a function that describes a linear relationship between two		2													
	WALT write a function that describes an exponential relationship between two		2													
	WALT determine an explicit expression for a function that models a linear or		2													
	WALT determine a recursive process for a function that model a linear or		2													
	WALT determine a set of steps for calculation for a function that models a		2													
F.BF.A.2	<i>NOTE: Not identified in the Instructional Units.</i>															
F.BF.B.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	WALT identify the effect on the graph of linear and exponential functions by		2, 3													
	WALT identify the effect on the graph of linear and exponential functions by		2, 3													
	WALT find the value of k given graphs of linear and exponential functions		2, 3													
	WALT experiment with all cases, $f(x) + k$, $f(x + k)$, $kf(x)$ and $f(kx)$, and		2, 3													
	WALT recognize even and odd functions from their graphs and algebraic		2, 3													
F.BF.B.4 Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. <i>For example, $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$.</i> b. (+) Verify by composition that one function is the inverse of another. c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse. d. (+) Produce an invertible function from a non-invertible function by restricting the domain.	<i>NOTE: Not addressed in the Algebra 1 Instructional Unit.</i>															

