STUDENT LEARNING GOALS/OBJECTIVES DEVELOPMENT GUIDE

Grade: **9**
Content Area: **Algebra 1**
Date:

<table>
<tr><th>Component</th><th>Guiding Questions</th><th>Descriptors</th></tr>
<tr><td>Baseline/Trend Data</td><td>What data were reviewed to assist in establishing the student learning goal/objective?</td><td>1. Result of the gr 8 interim assessment block on Expressions and Equations I and II and Functions, as well as the high school block on linear functions. September 2014
2. Review of the item analysis from the grade 8 final exam administered June 2014</td></tr>
<tr><td>Student Population</td><td>Who is included in this student learning goal/objective? Why is this target group/class selected?</td><td>I have a total of 50 students, 4 of which are ELL in my 2 classes of Algebra 1 this year. Based upon the cut scores the following data was gathered:
<table>
<tr><td></td><td>Exp and Eq I</td><td>Exp and Eq II</td><td>Functions</td><td>Linear Functions</td></tr>
<tr><td>Below Standard</td><td>5</td><td>10</td><td>16</td><td>27</td></tr>
<tr><td>At or Near Standard</td><td>30</td><td>20</td><td>26</td><td>18</td></tr>
<tr><td>Above Standard</td><td>15</td><td>20</td><td>8</td><td>5</td></tr>
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<tr><td>Standards And Learning Content</td><td>Which standards are connected to the learning content?</td><td>While all standards will be addressed, the following have been prioritized for my goal because they make up the critical areas and account for a large percent of the standards assessed for claim 2 and 3:
A.CED.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
A.REI.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forminga curve (which could be a line).
F.IF.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).
F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</td></tr>
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		F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. F.IF.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.* F.BF.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.* F.BF.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.* • Construct and compare linear, quadratic, and exponential models and solve problems. F.LE.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. F.LE.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). F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context
Student Learning Goal/Objective Statement	*What is the expectation for student growth and development?*	Students in Algebra 1 will correctly identify key characteristics of linear and exponential functions and use those characteristics to model real world situations.

Indicators Of Academic Growth And Development (IAGDs) **Growth Targets**	*A. How will you measure progress toward your student learning goal/objective?* *B. What targets will you establish to demonstrate attainment of your student learning goal/objective?* **NOTE: If teacher sets only one goal/objective then there MUST be at least two IAGDs**	**IAGDs:** **A. ASSESSMENTS/MEASURES OF PROGRESS** 1. Interim assessment block HS Linear Functions and HS Exponential Functions administered quarterly. 2. Scores on the common district wide midterm and final exam. **B. GROWTH TARGETS** 1. Students not scoring above standard will move up at least one level and those students already scoring at above standard will maintain that level on the IABs. 2. 90% of the students in this class will pass the district midterm and final exam.
Instructional Strategies/Supports	*What methods will you use to accomplish this student learning goal/objective? How will progress be monitored? What professional learning/supports do you need to achieve this student learning goal/objective?*	• Modeling of real world situations will be utilized in all units of instruction. • Graphing calculator and other technology will be embedded into lessons. • Warm-ups will be linked to standards that were previously learned to remediate any existing gaps. • Effective questioning strategies will be utilized. • Flexible grouping within the class will be assist with differentiation of lessons as needed.