STUDENT LEARNING GOALS/OBJECTIVES DEVELOPMENT GUIDE

Grade: 8
Content Area: Mathematics

Component	Guiding Questions	Descriptors
Baseline/Trend Data	*What data were reviewed to assist in establishing the student learning goal/objective?*	1. Grade 7 NWEA, May 2014 2. Grade 8 NWEA, September 2014 3. Review of item analysis from the grade 7 final exam, June 2014 4. Interim Assessment Block from grade 7 Ratio and Proportional Relationships and Expressions and Equations. October 2014
Student Population	*Who is included in this student learning goal/objective? Why is this target group/class selected?*	Of my current 95 students, I have 18 special education students, 2 students on 504 plans and 3 ELL students. On the IABs I had 40 who scored "below standard" on both and another 35 on at least one. As part of the new CCS grade 8 math instruction has three focus areas, two of which involve algebraic reasoning. These include formulating and reasoning about expressions and equations, as well as, grasping the concept of a function. Since this is an area of weakness as identified by both the NWEA and the IAB, it is important that this be a point of emphasis so that the students can be successful.
Standards And Learning Content	*Which standards are connected to the learning content?*	This student learning objective directly links to the following CCSS standards and current curriculum: 8.EE.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 small perfect squares and cube roots of small perfect cubes. Know that ?2 is irrational. 8.EE.7. Solve linear equations in one variable. a. Give examples of 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 forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. 8.EE.8. Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6. c. Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line

		through the first pair of points intersects the line through the second pair. 8.F.2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change. 8.F.3.Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line. 8.F.4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
Student Learning Goal/Objective Statement	*What is the expectation for student growth and development?*	My grade 8 students will be able to utilize algebraic reasoning and strategies to solve problems.
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. NWEA administered 3 times a year 2. Interim Assessment Blocks for grade 8: Expressions and Equations 1 and II and Functions **B. GROWTH TARGETS** 1. 95% of my students at or below grade level on the NWEA Map test will show a 2 point increase on their overall RIT score. 2. Of the 40 students who scored "below standard" on both IABs 85% of them will move up at least one level. 3. Of the 35 who were "below standard" on one IAB, 50 percent will move up one level.

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?*	• Starters to reteach some of the weak areas of the grade 7 content standards. • Use of technology including graphing calculator to give visual representation of algebraic concepts • Cooperative learning groups to allow for discourse. • Effective questioning strategies to help build a deeper understanding of the content.