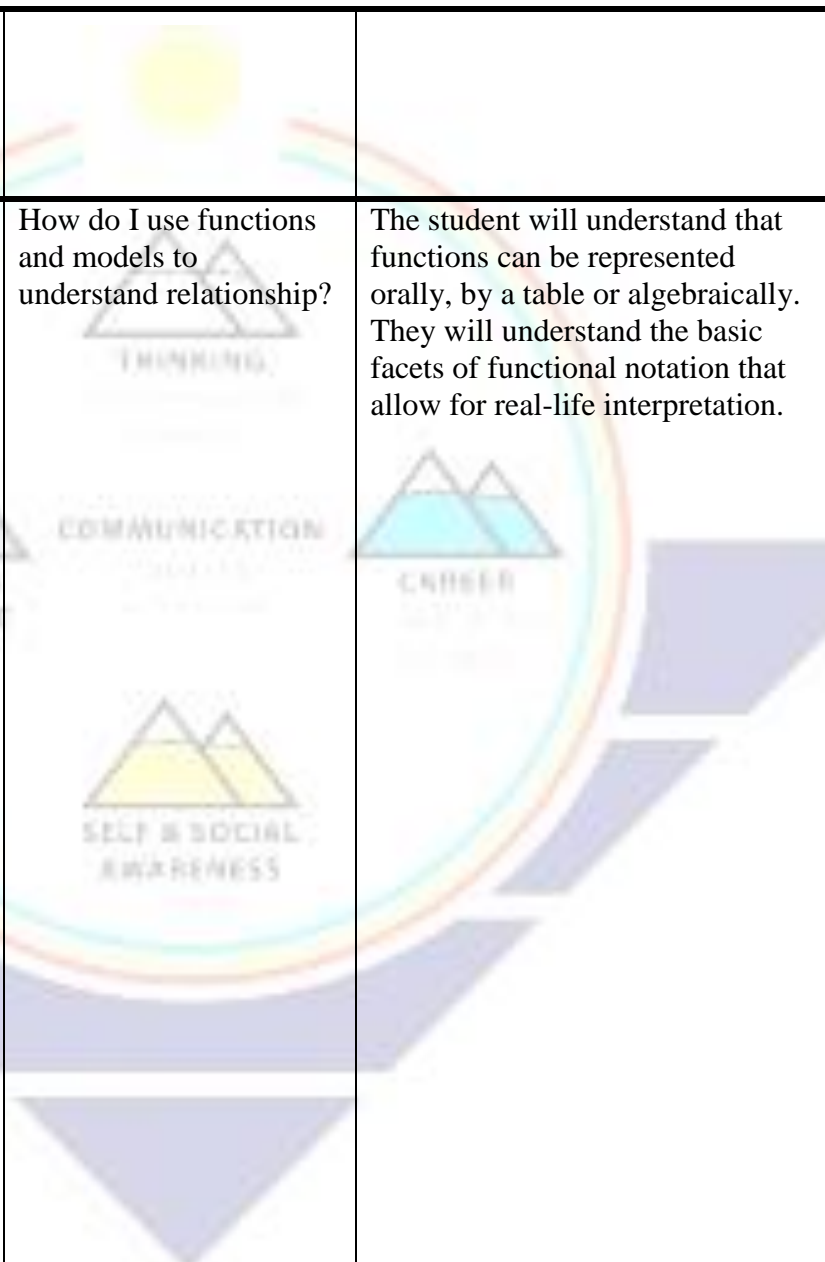# Ganado Unified School District
(Academic Intervention – Far Behind 10th Grade)

PACING Guide SY 2014-2015

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
Quarter 1 Week 1	**District, School, and Classroom Rules Student Handbook**	What are my rights and responsibilities as a student? What are my goals as a student and after graduation?	The students will become familiar with student handbook so as to be able to carry out proper procedures in class and school.	Rules Rights Responsibilities
Week 2	**Numbers and Quantity** **N-Q 1**: Use units as a way to understand problems and to guide the solutions of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the origin in graphs and in displays. **N-Q 2**: Define appropriate quantities for the purpose of descriptive modeling.	How do you use rate and unit rate to understand real-world problem? How do I consistently choose unit?	The student will be able to convert units so mathematical models are interpreted consistently. I will relate units consistently when making and interpreting models.	Order of Operations Units Associative Property Commutative Property Distributive Property
Week 3	**Algebra** **HS-A–SSE 1:** Interpret expressions that represent a quantity in terms of its context. **HS-A-CED 1:** Create equations and inequalities in one variable and use them to solve problems. **HS-A-REI 1:** Explain each step in solving a simple equation as following from the equality of numbers asserted at	How do you write an expression to represent a real world situation? How do you write and solve equations using addition, subtraction, multiplication and division?	The student will be able to describe real-life situations using algebraic expressions and equations. The student will be able to solve equations – even for one variable in terms of another variable.	Expressions Equations Inequalities

	the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.			
Week 4	**Functions** **HS.F-IF.A.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 $y = f(x)$. **HS.F-IF.A.2.** Use function notations, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. **HS.F-IF.B.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.*	How do I use functions and models to understand relationship?	The student will understand that functions can be represented orally, by a table or algebraically. They will understand the basic facets of functional notation that allow for real-life interpretation.	Function Functional Notation Domain Range Slope Rate of Change Intercepts Vertical Line Test

Week 5, 6	**Geometry** **HS.G-CO.A.1.** Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. **HS.G-CO.A.3.** Given a rectangle, parallelogram, trapezoid, or regular polygons, describe the rotations and reflections that carry it onto itself. **HS.G-CO.B.7.** Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	What is congruence in various geometric shapes?	The student will use reasoning and knowledge of the definitions and postulates of geometry to determine congruence of various geometric shapes as well as the effect of transformations and motions upon these figures.	Angle Arc Triangle Congruence Circle Transformation Rotation Reflection
Week 7, 8	**Statistics and Probability** **HS.S-ID.A.1.** Represent data with plots on the real number line (dot plots, histograms, and box plots). **HS.S-ID.A.2.** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. **HS.S-ID.B.6.** Represent data on two quantitative variables on a scatter plot, and describe how the variables are	How do I summarize and interpret real-world data using various methods of statistics and probability?	The student will be able to use measures of central tendency to interpret data. He will be able to fit curves to real-life data points.	Mean Median Mode Scatter Plots Line of Best Fit 　　Correlation – 　　positive, negative, 　　or none.

	related.			
Week 9, 10	**Team Building and Close Reading**	How do I discern meaning through context in reading various passages?	The student will be able to discern vocabulary through context. The student is able to pick out main ideas in readings.	

2ⁿᵈ Quarter Week 1
• **Resource Book**
• **AZ DOE**
• **ATI Online**
• **CPALMS.Org**
• **KUTA**
	HS CONCEPTUAL CATEGORY: Number and Quantity
	➤ The Real Number System
	    • Extend the properties of exponents to rational exponents.
	    • Use properties of rational and irrational numbers.
	➤ Quantities
	Reason quantitatively and use units to solve problems.
		➤ What is rational exponent?
		What are the different properties of integer exponents?
			I will be able to:
			➤ Define rational exponent.
			Describe the different properties of integer exponents.
				➤ Exponent
				➤ Integer
				➤ Real number
				➤ Rational number
				➤ Irrational number

Week 2 • **Resource Book** • **AZ DOE** • **ATI Online** • **CPALMS.Org** • **KUTA**	**HS CONCEPTUAL CATEGORY: Algebra** ➤ Arithmetic with Polynomials and Rational Expression • Perform arithmetic operations on polynomials. ➤ Creating Equations Create equations that describe numbers or relationships.	➤ **What is the relationship between zeros and factors of polynomials?**	I will be able to: ➤ Explain and describe the relationship of zero and factors of polynomials. ➤ Understand that polynomials form a system analogy to the integers, namely, the operations of Addition, Subtraction and Multiplication. ➤ Create equations and inequalities in one variable and use them to solve problems	➤ Polynomial ➤ Monomial ➤ Binomial ➤ Equation ➤ Inequalities variable

Week 3 and 4 • **Resource Book** • **AZ DOE** • **ATI Online** • **CPALMS.Org** • **KUTA**	HS CONCEPTUAL CATEGORY: Functions ➢ Interpreting Function • Understand the concept of a function and use function notation. • Interpret functions that arise in applications in terms of context. • Analyze functions using different representations ➢ Building Functions • Build a function that models a relationship between two quantities. • Build a new function from existing functions. ➢ Linear, Quadratic and Exponential Models • Construct and compare linear, quadratic, and exponential models and solve problems. • Interpret expressions for functions in terms of situation they model.	➢ What is the concept of a function? ➢ How to use function notation? ➢ How will you interpret functions that arise in applications in terms of the context? ➢ What is the importance of analyzing functions using different representations? ➢ How to build new function from existing functions? ➢ What are the differences between linear and quadratic and also exponential models and problem solving?	I will be able to: ➢ Describe concept of a function. ➢ Illustrate or demonstrate function notation. ➢ Interpret functions that arise in applications in terms of the context. ➢ Explain the importance of analyzing functions using different representations. ➢ Describe how to build new function from existing functions. ➢ Compare linear and quadratic Compare exponential model and problem solving.	➢ Function ➢ Function notation ➢ Linear ➢ Quadratic ➢ Exponential model
Week 5 and 6 • **Resourc**	HS CONCEPTUAL CATEGORY:	➢ What is Geometry?	The students will be able to: ➢ Know precise definition of	➢ Congruence ➢ Similarity

e Book • **AZ DOE** • **ATI Online** • **CPALM S.Org** • **KUTA**	Geometry ➢ Congruence • Experiment with the transformations in the plane. • Understand congruence in terms of rigid notion. ➢ Similarity, Right Triangles and Trigonometry • Understand similarity in terms of similarity transformations ➢ Circles • Understand and apply theorems about circles. • Find arc length and areas of sectors of circles. ➢ Expressing Geometric Properties with Equations • Translate between the geometric description and the equation for a conic section. ➢ Geometric Measurement and Dimension • Explain volume formulas and use them to solve problems ➢ Modeling with Geometry • Apply Geometric concept in modeling situation	➢ How will you differentiate congruence and similarity? ➢ What is Triangle? ➢ What are the different theorems of similarity in triangles? ➢ What is circle? ➢ How will you measure the length and arcs in a circle? ➢ How will you find the area and volume of Geometric figure? What is the importance of geometric concepts in modeling situation?	angle, circle, perpendicular line, parallel line and line segment. ➢ Use geometric descriptions of rigid motions to transform figures and predict the effect of given rigid motion on a given figure. ➢ Prove that all circles are similar ➢ Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality. ➢ Derive the equation of a circle of a given center and radius using the Pythagorean Theorem. ➢ Give an informal argument for the formulas for Circumference of a circle, area of a circle, volume of a cylinder, pyramid and cone. Use geometric shapes, their measures, and their properties to describe objects.	➢ Angle ➢ Triangle ➢ Plane ➢ Circle ➢ Arc ➢ Perpendicular line ➢ Parallel line ➢ Line segment ➢ Point ➢ Proportional ➢ Pythagorean theorem ➢ Cylinder ➢ Pyramid ➢ Cone

Week 7 and 8 • **Resource Book** • **AZ DOE** • **ATI Online** • **CPALMS.Org** • **KUTA**	.HS CONCEPTUAL CATEGORY: Statistics and Probability ➢ Interpreting Categorical and Quantitative Data • Summarize, represent and interpret data on a single count or measurement variable. ➢ Making inferences and Justifying Conclusions Understand and evaluate random processes underlying statistical experiments.	➢ How will you represent a data using plots in the real number line? ➢ What is mean? Median? Mode? ➢ How does statistics process used in making inferences about population parameters?	The students will be able to: ➢ Represent data with plots on the real number line. ➢ Use statistics appropriate to the shape of the data distribution to compare median, mean and spread of 2 or more different data sets. Understand statistics as a process for making inferences about population parameters based on random sample from that population	➢ Probability ➢ Statistics ➢ Mean ➢ Median ➢ Mode ➢ Population ➢ Parameter ➢ Random
Week 9 **An article**	**Team Building and Close Reading** COMMON CORE- CLOSE READING Planning and implementation for standards and close reading.	➢ What are the unfamiliar words from the article? ➢ What are the evidence from the text? ➢ What are the main ideas and supporting details?	The students will be able to: ➢ Learn meaning of words and phrases from context clues. ➢ Annotate text using standard rules for annotating text. ➢ Cite evidence from text ➢ Determine main ideas and supporting details Write a summary of the article.	* varies depend on the given article
Quarter 3 **Week 1**	**Numbers and Quantity** **HS.N-VM.A.1.** Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes **HS.N-VM.A.3.** Solve problems involving velocity and other quantities that can be represented by vectors.	How do you determine vector quantities represented by line segment?	The students will be able to determine vector quantities directed by line segments, solve problems involving velocity and vectors.	vector magnitude direction line segment
Week 2, 3	**Algebra**	How do you solve	The students will be able to solve	Rational equation

	HS.A-REI.A.2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. **HS.A-REI.B.3.** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. **HS.A-REI.B.4.** Solve quadratic equations in one variable. **HS.A-REI.C.6.** Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. **HS.A-REI.C.7.** Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. **HS.A-REI.C.8.** Represent a system of linear equations as a single matrix equation in a vector variable.	problems involving simple rational and radical equations in one variable? How do you solve problems involving linear equations and inequalities in one variable? How do you represent a system of linear equations?	simple rational and radical equations in one variable, linear equations and inequalities in one variable, quadratic equations in one variable, systems of linear equations, and represent a system of linear equations.	Radical equation Variable Linear equation Quadratic equation
Week 4, 5	**Functions** **HS.F-TF.A.4.** Use the units circle to explain symmetry (odd and even) and periodicity of trigonometric functions. **HS.F-TF.B.7.** Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context. **HS.F-TF.C.8.** Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle. **HS.F-TF.C.9.** Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.	How do you determine symmetry and periodicity of trigonometric functions? How do you solve trigonometric equations using inverse functions?	The students will be able to explain symmetry and periodicity of trigonometric functions, solve trigonometric equations using inverse functions, prove the Pythagorean identity and addition and subtraction formulas for sine, cosine, and tangent.	Unit circle Symmetry Periodicity Trigonometric function Inverse function Pythagorean identity

Week 6, 7	**Geometry** **HS.G-GMD.A.1.** Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. **HS.G-GMD.A.3.** Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. **HS.G-MG.A.2.** Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	How do you give informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone? How do you solve problems using volume formulas for cylinders, pyramids, cones, and spheres?	The students will be able to provide an informal argument for formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone, solve problems involving formulas for cylinders, pyramids, cones, and spheres.	Circumference Volume Cones Spheres density
Week 8, 9	**Statistics and Probability** **HS.S-MD.A.1.** Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions. **HS.S-MD.A.2.** Calculate the expected value of a random variable; interpret it as the mean of the probability distribution. **HS.S-MD.B.5.** Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. **HS.S-MD.B.6.** Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). **HS.S-MD.B.7.** Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).	How do you graph probability distribution? How do you calculate the expected value of a random variable? How do you use probabilities to make fair decisions? How do you analyze decisions and strategies using probability concepts?	The students will be able to define a random variable for a quantity of interest, calculate the expected value of a random variable, use probabilities to make fair decisions and analyze decisions and strategies using probability concepts.	Random variable Mean Expected values Probability
Week 10	**Team Building and Close Reading**	How do I discern meaning through context	The student will be able to discern vocabulary through context. The	

		in reading various passages?	student is able to pick out main ideas in readings.	
Quarter 4 Week 1-5	**Close Reading**	How do I get the main idea of the context? How do vocabulary words used in the text? How do you summarize the text? How do you sequence events in the text?	The students will be able to distinguish the main idea of the context, identify how vocabulary words are used, summarize the text, and sequence the events.	
Week 6-9	**Team Building**	How did I do the best for this school year? What areas should I improve on next year? What are the struggles that I encountered this year? What are my plans for the next year?	The students will be able to make some reflections of the previous and succeeding school year.	