



GSE AMDM UNIT PLANNER



Unit title	Unit 4 – Recursion Models	Unit duration	8 days
Essential Questions (OR GUIDING QUESTIONS?)			
<ul style="list-style-type: none">• How can students identify the variables of interest in a bivariate situation?• How can students analyze the form, direction, and strength of scatterplots?• How can students analyze data that follow a linear pattern using recursively defined rules?• How can students collect data that follow an exponential pattern and use recursively defined rules?• How can students use rules developed to make predictions about situations being modeled?• How can students explore both exponential growth and exponential decay problems and make connections between the two models?• How can students use data to construct an exponential growth or exponential decay model?• How can students compare and contrast recursive and explicit function models for exponential decay?			
Assessments			
Common Formative Assessment – Mini Quiz - Linear vs. Exponential Common Summative Assessment – Unit 4 Test			
Content Standards			
<p><u>Students will explore representations of data and models of data as tools in the decision-making.</u> MAMDM.D.4 Students will use functions to model problem situations in both discrete and continuous relationships. a. Determine whether a problem situation involving two quantities is best modeled by a discrete (pattern identification, population growth, compound interest) or continuous (medication dosage, climate change, bone decay) relationship. b. Use linear, exponential, logistic, piecewise and sine functions to construct a model.</p> <p><u>Students apply tools to model geometric situations and solve problems. Students extend their knowledge of right triangle trigonometry.</u> MAMDM.G.1 Students will create and use two- and three-dimensional representations of authentic situations.</p>			

Learning Activities and Experiences			
Topic	Resource	Content Covered	Standards Addressed
Relationships in Data	4.1 Scatterplots	<ul style="list-style-type: none"> Types of correlation Bivariate data and relationships 	MAMDM.D.4, 4a, 4b
	Additional Resources:		
Recursion	4.2 Linear Recursion	<ul style="list-style-type: none"> Arithmetic sequences Recursive and function rules for linear relationships Predicting results 	MAMDM.D.4, 4a, 4b
	4.3 Exponential Recursion	<ul style="list-style-type: none"> Geometric sequences Recursive and function rules for exponential relationships Predicting results 	MAMDM.D.4, 4a, 4b MAMDM.G.1
	4.4 Comparing Models	<ul style="list-style-type: none"> Recursion in exponential growth and decay Use rate of change to explore and model exponential recursion 	MAMDM.D.4, 4a, 4b MAMDM.G.1
	Additional Resources:		
Algebra 1 Review	Algebra 1 Review	<ul style="list-style-type: none"> Slope of a line given 2 points or a graph Write the equation of a line in slope-intercept form given an equation or graph 	
	Additional Resources:		
Unit Review	Unit Review	<ul style="list-style-type: none"> Slope of a line given 2 points or a graph Write the equation of a line in slope-intercept form given an equation or graph Correlation Bivariate data Linear vs. Exponential Models, recursive and explicit 	
	Additional Resources:		
Personalized Learning and Differentiation			
<p>Teachers differentiate by providing examples (work samples or task-specific clarifications of assessment criteria); structuring support (advance organizers, flexible grouping, peer relationships); establishing flexible deadlines, and adjusting the pace.</p> <p>-SWD/504- Accommodations provided -ELL- Five Principle ELL Curriculum Framework and Vocabulary Supports</p>			

-Intervention Support- Re-teaching Activities in Small Groups with Progress Monitoring
-Extensions- Enrichment Tasks and Projects

Resources