



AMDM UNIT PLANNER



Unit title	Unit 5 - Functions	Unit duration	3 weeks
-------------------	---------------------------	----------------------	----------------

Essential Questions (OR GUIDING QUESTIONS?)

- How can students use the correlation coefficient to determine the best regression for a set of data?
- How can students use a regression model to predict outcomes?
- How can students model real-world data using cyclical or sinusoidal models?
- How can students interpret cyclical models in the context of a situation?
- How can students use cyclical models to make predictions and draw conclusions?
- How can students develop, graph, interpret, and apply the notion of piecewise functions?

Assessments

Common Formative Assessment – 5.2 Daily Check

Common Summative Assessment – Unit 5 Test

Content Standards

Students will explore representations of data and models of data as tools in the decision making.

MAMDM.D.4 Students will use functions to model problem situations in both discrete and continuous relationships.

- 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.
- Use linear, exponential, logistic, piecewise and sine functions to construct a model.

Students apply tools to model geometric situations and solve problems. Students extend their knowledge of right triangle trigonometry.

MAMDM.G.1 Students will create and use two- and three-dimensional representations of authentic situations.

MAMDM.G.2 Students will solve geometric problems involving inaccessible distances using basic trigonometric principles, including the Law of Sines and the Law of Cosines

Learning Activities and Experiences

Topic	Resource	Content Covered	Standards Addressed
Regression in Linear and Non-Linear Functions	Linear and Exponential Regression	<ul style="list-style-type: none"> • Linear and exponential regression models • Correlation coefficients to determine regression type • Predict using regression models 	MAMDM.D.4 MAMDM.D.4a MAMDM.D.4b

	Additional Resources:		
Cyclical Functions	Link: Activity Sheet 4 - Length of Daylight	<ul style="list-style-type: none"> • Sinusoidal Regression • Analyze and predict from a graph and regression model 	MAMDM.D.4 MAMDM.D.4a MAMDM.D.4b MAMDM.G.1 MAMDM.G.2
	Additional Resources:		
Piecewise Functions	Graphing Piecewise Functions & Applications of Piecewise Functions	<ul style="list-style-type: none"> • Graph piecewise functions • Write piecewise functions • Evaluate and analyze piecewise functions 	MAMDM.D.4 MAMDM.D.4a MAMDM.D.4b MAMDM.G.1 MAMDM.G.2
	Additional Resources:		

Personalized Learning and Differentiation

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.

- SWD/504- Accommodations provided
- ELL- Five Principle ELL Curriculum Framework and Vocabulary Supports
- Intervention Support- Re-teaching Activities in Small Groups with Progress Monitoring
- Extensions- Enrichment Tasks and Projects

Resources

Advanced Mathematical Decision Making the UT Dana Center

Link to PLC Schoology Resources: <https://marietta.schoology.com/group/1985294869/materials#/group/1985294869/materials?f=83203536>