Corsica Stickney Curriculum Map

Subject: Algebra 1 Grade:9th Unit 1 Module 2: Algebraic Models Lessons: 2.1,2.2,2.3,2.4,2.5 Unit 2 Module 3,4: Understanding Functions Lessons: 3.1,3.2,3.3,3.4,4.1,4.2,4.3	Teacher: Mr. Jason Broughton Duration: September 2019
Summary of unit: Students will learn about: • graphing relationships • understanding relations and functions • modeling functions • graphing functions • identifying and graphing sequences • constructing and modeling arithmetic sequences	

Stage 1 – Desired Results	
Standards **: F-IF.4** For a function that models a relationship between two quantities, interpret key features of graphs… **: F-IF.1** Understand that a function... assigns to each element of the domain exactly one element of the range **F-IF.2** Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. **: F-IF.1** Understand that... 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... $y = f(x)$. F-IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. F-LE.2 Construct… arithmetic... sequences, given a graph, a description of a relationship, or two input-output pairs F-BF.1a ...Determine an explicit expression, a recursive process, or steps for calculation from a context.	Essential Questions: How can you use functions to solve real-world problems? How do you graph functions? What is function notation and how can you use functions to model real-world situations? How do you represent relations and functions? How can you describe a relationship given a graph and sketch a graph given a description? What is a sequence and how are sequences and functions related? What is an arithmetic sequence? How can you solve real-world problems using arithmetic sequences?

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Language objective	Mathematical practices	Integrate mathematical practices
Explain to a partner the difference between discrete and continuous graphs and the difference between domain and range.	MP.7 Using Structure	MP.4 Model the concept of solving an equation by showing students a two-pan balance with equal weight on both sides. Ask students what will happen if you add or subtract weight on one side only. Demonstrate that adding or removing weights on one side of the scale makes it unbalanced. Then ask students what will happen if you add or subtract the same amount of weight on both sides of the scale. Demonstrate this. Explain that equations are like balances. The two sides must be kept equal, so the same operation must be performed on both sides of the equation.
Use examples from the lesson to explain the meaning of the terms relation, function, domain, and range.	MP.2 Reasoning MP.6 Precision MP.5 Using Tools	
Explain to a partner how to determine a reasonable domain and range for a real-world function.		
Explain to a partner how to graph a real-world function.		MP.6 Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
Describe rules for sequences using words and symbols		
Define and give examples of arithmetic sequence and common difference.		
Interpret the meaning of questions about real-world situations.		

Stage 2 – Assessment Evidence

Performance Tasks: Homework quizzes, worksheet, Tests.	Unit Pre-Assessment: Assign ready-made or customized practice tests to prepare students for high-stakes tests

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Stage 3 – Learning Plan

Learning Activities: procedures/topics
Reading and discussing lesson with class.
Giving students examples to be completed in class.
Students taking notes and using notes to complete homework assignments.

Lesson Descriptions

MODULE 3 Functions and Models
Lesson 3.1 Graphing Relationships
Lesson 3.2 Understanding Relations and Functions
Lesson 3.3 Modeling with Functions
Lesson 3.4 Graphing Functions

MODULE 4   Patterns and Sequences
Lesson 4.1 Identifying and Graphing Sequences
Lesson 4.2 Constructing Arithmetic Sequences
Lesson 4.3 Modeling with Arithmetic Sequences