

S. P. ARNETT MIDDLE SCHOOL
COMMON CORE ALIGNED LESSON PLAN TEMPLATE

TEACHER: Ashleigh Richardson

SUBJECT: Mathematics

DATE: March 4-8, 2024

GRADE: 8th

CCSS: Common Core Learning Standard(s) Addressed:

MATH

8.EE.B-Understand the connections between proportional relationships, lines, and linear equations.

8.EE.B.5-Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

8.EE.B.6-Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .

8.NS.A.1-Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers, show that the decimal expansion repeats eventually. Convert a decimal expansion that repeats eventually into a rational number by analyzing repeating patterns.

8.EE.C.7-Solve linear equations in one variable.

8.EE.C.7.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).

8.EE.C.7.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.C.8.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.

ALGEBRA 1

HSF-IF.B.5-Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

HSN-Q.A.2-Define appropriate quantities for the purpose of descriptive modeling.

HSA-CED.A.2-Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

HSA-REI.C.7-Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.

HSA-REI.D.11-Explain why the x -coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

HSS-ID.B.6.a-Fit a function to the data; use functions fitted to data to solve problems in the context of the data.

Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.

HSA-SSE.B.3.a-Factor a quadratic expression to reveal the zeros of the function it defines.

HSA-SSE.B.3.b-Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

HSF-IF.C.7.a-Graph linear and quadratic functions and show intercepts, maxima, and minima.

HSF-IF.C.8.a-Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

Danielson, 1c

Monday 3/4/24

Algebra I

- Bellringer: Rewrite Quadratic Expressions
- We Will: Write quadratic functions in vertex form or factored form to model a context.
- Eureka Math² Module 4: Lesson 23: Creating Equations of Quadratic Functions to Model Contexts.
- I Will: Interpret key features of quadratic functions and their graphs in context.

Regular Math

- Bellringer: Write Equations of Lines
- We Will: Discuss representing linear, nonproportional relationships as linear equations.
- Eureka Math² Module 4: Lesson 26: Linear Equations from Word Problems
- I Will: Use linear equations to solve problems with real-world contexts.

Tuesday 3/5/24

Algebra I

- Bellringer: Solve Systems of Linear Equations
- We Will: Solve systems of equations consisting of one linear equation and one quadratic equation both graphically and algebraically.
- Eureka Math² Module 4: Lesson 24: Another Look at Systems of Equations
- I Will: Solve quadratic equations of the form $f(x) = g(x)$ graphically by looking for the intersection points of the graphs of $y=f(x)$ and $y=g(x)$.

Regular Math

- Bellringer: Study for Quiz
- We Will: Review study guide for Module 4 Assessment
- Eureka Math² Module 4: Review (Lesson 1-26)
- I Will: Take notes on the study guide for Eureka Math² Module 4: Assessment

Wednesday 3/6/24

Algebra I

- Bellringer: Model a Verbal Description
- We Will: Work together to solve a problem that requires them to maximize the area of a rectangular garden given a fixed amount of fencing material.
- Eureka Math² Module 4: Lesson 25: Maximizing Area
- I Will: Analyze a situation that can be modeled with a quadratic function numerically, graphically, and algebraically.

Regular Math

- Bellringer: Study for Quiz
- We Will: Review study guide for Module 4 Assessment
- Eureka Math² Module 4: Assessment (Lesson 1-26)
- I Will: Take the Eureka Math² Module 4: Assessment

Thursday 3/7/24

Algebra I

- Bellringer: Classify Tables of Values as Linear or Nonlinear
- We Will: Explore how to find an equation for a quadratic function that models a relationship.
- Eureka Math² Module 4: Lesson 26: Modeling Data with Quadratic Functions
- I Will: Model data sets with quadratic functions.

Regular Math

- Bellringer: Study for Quiz
- We Will: Review study guide for Module 4 Assessment
- Eureka Math² Module 4: Assessment (Lesson 1-26)
- I Will: Take the Eureka Math² Module 4: Assessment

Friday 3/8/24

Algebra I

- Bellringer: Study for Test
- We Will: Go over Study Guide for Module 4 Test
- Eureka Math² Module 4 Test Review (Lesson 1-26)
- I Will: Listen, take notes, and ask questions about the review.

Regular Math

- Bellringer: Determine whether an Ordered Pair is a Solution
- We Will: Formulate a problem from a context.
- Eureka Math² Module 5: Lesson 1: Solving Problems with Equations and Their Graph
- I Will: Apply different mathematical tools to model, analyze, and answer a real-world question.

Danielson, 2c, 3b, 3c,

Resources/Materials: (What texts, digital resources, & materials will be used for this lesson?)

1. Bellringer PDF

