

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

TEACHER: Ashleigh Richardson

SUBJECT: Mathematics

DATE: February 26 - March 1, 2024

GRADE: 8<sup>th</sup>

CCSS: Common Core Learning Standard(s) Addressed:

**MATH**

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

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  $b$ .

**ALGEBRA 1**

HSA-SSE.A.2-Use the structure of an expression to identify ways to rewrite it.

HSN-RN.B.3-Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

HSF-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.

HSF-IF.C.9-Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

HSF-BF.B.3-Identify the effect on the graph of replacing  $f(x)$  by  $f(x) + k$ ,  $k f(x)$ ,  $f(kx)$ , and  $f(x + k)$  for specific values of  $k$  (both positive and negative); find the value of  $k$  given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.

HSA-CED.A.4-Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

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.

HSA-REI.B.4.a-Use the method of completing the square to transform any quadratic equation in  $x$  into an equation of the form  $(x - p)^2 = q$  that has the same solutions. Derive the quadratic formula from this form.

HSA-REI.B.4.b-Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .

*Danielson, 1c*

**Monday 2/26/24**

Algebra I

- Bellringer: Determining the Number of Zeros of a Quadratic Function
- We Will: Use the discriminant to determine the number and nature of the zeros of a quadratic function.
- Eureka Math<sup>2</sup> Module 4: Lesson 18: The Quadratic Formula and Zeros of a Function
- I Will: Use the quadratic formula to identify key features of the graph of a quadratic function.

Regular Math

- Bellringer: Find Slope
- We Will: Use similar triangles to develop the point-slope form of the equation of a line.
- Eureka Math<sup>2</sup> Module 4: Lesson 22: Point-Slope Form of the Equation of a Line
- I Will: Graph equations given in point-slope form and write equations in point-slope form given graphs.

**Tuesday 2/27/24**

Algebra I

- Bellringer: Identify Transformations
- We Will: Graph quadratic functions as transformations of the graph of  $f(x) = x^2$ .
- Eureka Math<sup>2</sup> Module 4: Lesson 19 Transforming the Graphs of Quadratic Functions
- I Will: Identify key features of the graph of a quadratic function written in vertex form.

Regular Math

- Bellringer: Write an Equivalent Expression
- We Will: Determine whether linear equations in different forms represent the same line.
- Eureka Math<sup>2</sup> Module 4: Lesson 23: Comparing Equations in Different Forms
- I Will: Write linear equations from tables.

### Wednesday 2/28/24 (Edited for Virtual Day)

#### Algebra I

- Complete the Factoring Worksheet that was handed out in class on Tuesday 2/27/24

#### Regular Math

- Complete the Slope worksheet that was handed out in class on Tuesday 2/27/24  
(I have also posted a copy of this worksheet on my website for those that were absent).

### Thursday 2/29/24

#### Algebra I

- Bellringer: Study for Quiz
- We Will: Go over any questions from the study guide.
- Eureka Math<sup>2</sup> Module 4: Topic C Quiz (Lesson 13-21)
- I Will: Take the Eureka Math<sup>2</sup> Module 4: Topic C Quiz

#### Regular Math

- Bellringer: Find the Slope
- We Will: Write an equation of a line given a graph.
- Eureka Math<sup>2</sup> Module 4: Lesson 24: The Patterns, the Pops, and the Pastries
- I Will: Write an equation of a line given a graph.

### Friday 3/1/24

#### Algebra I

- Bellringer: Identify Key Features
- We Will: Graph quadratic functions written in a variety of forms and identify key features of the functions and their graphs.
- Eureka Math<sup>2</sup> Module 4: Lesson 22: A Summary of Graphing Quadratic Functions
- I Will: Determine which forms of quadratic functions can be used to identify specific key features.

#### Regular Math

- Bellringer: Write an Equation of the Line
- We Will: Work in pairs to match an equation of a line with the graph of the line.
- Eureka Math<sup>2</sup> Module 4: Lesson 25: Lines, Lines, and More Lines
- I Will: Graph linear equations given in various forms.

*Danielson, 2c, 3b, 3c,*

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

1. Bellringer PDF
2. Other materials embedded in daily lesson/activity plan

*Danielson, 2c, 3c*