

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

TEACHER: Ashleigh Richardson

SUBJECT: Mathematics

DATE: February 19-23, 2024

GRADE: 8th

CCSS: Common Core Learning Standard(s) Addressed:

MATH

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.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 2/19/24

Algebra I

- Bellringer: Solving Quadratic Equations by Inspection
- We Will: Solve quadratic equations in the form $(x-p)^2 = q$.
- Eureka Math² Module 4: Lesson 13: Using Square Roots to Solve Quadratic Equations
- I Will: Explain why the sum of a rational numbers and an irrational number is an irrational number.

Regular Math

- Bellringer: Write Equivalent Fractions
- We Will: Find slopes of falling lines by using slope triangles.
- Eureka Math² Module 4: Lesson 18: Slopes of Falling Lines
- I Will: Graph a falling line given the slope and a point on the line.

Tuesday 2/20/24

Algebra I

- Bellringer: Using Identities to Factor
- We Will: Work in pairs to rewrite a perfect square trinomial expression as a squared binomial expression to solve an equation by using square roots.
- Eureka Math² Module 4: Lesson 14: Solving Quadratic Equations by Completing the Square
- I Will: Solve quadratic equations by rewriting them in the form $(x-p)^2 = q$.

Regular Math

- Bellringer: find the Difference.
- We Will: Develop a formula for the slope of a line.
- Eureka Math² Module 4: Lesson 19: Using Coordinates to Find Slope
- I Will: Find the slope of a line given the coordinates of at least two points on the line.

Wednesday 2/21/24

Algebra I

- Bellringer: Using Square Roots to Solve Equations
- We Will: Complete the square to solve any quadratic equations.
- Eureka Math² Module 4: Lesson 15: Deriving the Quadratic Formula
- I Will: Complete the square to derive the quadratic formula.

Regular Math

- Bellringer: Study for Quiz
- We Will: Go over any questions from the Study Guide
- Eureka Math² Module 4: Topic D Quiz (Lesson 15-19)
- I Will: Take the Eureka Math² Module 4: Topic D Quiz

Thursday 2/22/24

Algebra I

- Bellringer: Using the Order of Operations to Evaluate
- We Will: Solve quadratic equations by using the quadratic formula.
- Eureka Math² Module 4: Lesson 16: Solving Quadratic Equations
- I Will: Solve quadratic equations by strategically choosing a method.

Regular Math

- Bellringer: Solve Proportions
- We Will: Use similar triangles to develop the slope-intercept form of the equation of a line.
- Eureka Math² Module 4: Lesson 20: Slope-Intercept Form of the Equation of a Line
- I Will: Write equations in slope-intercept form from graphs and graph equations given in slope-intercept form.

Friday 2/23/24

Algebra I

- Bellringer: Evaluating Square Roots
- We Will: Rewrite square roots in simplest radical form.
- Eureka Math² Module 4: Lesson 17: Rewriting Square Roots
- I Will: Explain why the product of a nonzero rational number and an irrational number is an irrational number.

Regular Math

- Bellringer: Identify Slope and Y-Intercept
- We Will: Determine the relationship between slope and parallel lines.
- Eureka Math² Module 4: Lesson 21: Slope and Parallel Lines
- I Will: Determine whether lines are parallel.

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