PCSD Lesson Planning Template

Grade Level 9th Algebra I	**Teacher/Room**: S. Pinson/Room 182	Week of: November 28– December 2, 2016

Unit Vocabulary: see attached

Instructional Strategies Used: direct instruction, independent study, interactive instruction, partners

Day 1	Day 2	Day 3	Day 4	Day 5
GSE/GPS Standard(s): **MGSE9-12.F.IF.1** Understand that a function from one set (the input, called the domain) to another set (the output, called the range) assigns to each element of the domain exactly one element of the range, i.e. each input value maps to exactly one output value. If f is a function, x is the input (an element of the domain), and f(x) is the output (an element of the range). Graphically, the graph is y = f(x).	**GSE/GPS Standard(s)**: **MGSE9-12.A.CED.2** Create linear, quadratic, and exponential equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	**Common Core Standard(s)**: **MGSE9-12.A.CED.2** Create linear, quadratic, and exponential equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	**Common Core Standard(s)**: **MGSE9-12.A.CED.2** Create linear, quadratic, and exponential equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	**GSE/GPS Standard(s)**: **MGSE9-12.A.CED.2** Create linear, quadratic, and exponential equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
EQ Question: Why is the concept of a function important and how do I use function notation to show a variety of situations modeled by functions?	**EQ Question**: Can I write a function representing given information?	**EQ Question:** What information does the slope and y-intercept give me?	**EQ Question:** Can I write an equation of a line when given a graph?	**EQ Question:** Can I write an equation of a line when given two points?
Mini Lesson: Graphing Equations **Activating Strategies:** Evaluate an expression **Lesson**: Function Notation 1. Powerpoint with Guided Notes 2. Guided Practice Problems 3. Assignment **Resource/Materials:** Powerpoint, Worksheets	**Mini Lesson:** computer lab **Activating Strategies:** What are the different ways to graph a line? **Lesson**: Creating Functions 1. Computer Lab 2. Guided Practice 3. Classwork 4. Assignment **Resource/Materials:** Powerpoint, Worksheets	**Mini Lesson:** Graphing Equations **Activating Strategies:** Find the slope of the line between the x- and y-intercepts **Lesson**: Slopes and Y-Intercepts 1. Graphic Organizer 2. Guided Notes – Different ways to find slope 3. Guided Practice 4. Assignment **Resource/Materials:** Powerpoint, Worksheets	**Mini Lesson:** computer lab **Activating Strategies:** Matching Lines with Equations Activity (Partners) **Lesson:** Graphing Linear Equations and Writing Equations of Lines in Slope-Intercept Form 1. Computer Lab 2. Guided Notes 3. Guided Practice 4. Assignment **Resource/Materials:** Powerpoint, Worksheets	**Mini Lesson:** 24 **Activating Strategies:** What are the different methods to find slope? **Lesson:** Writing Equations given Two Points 1. Guided Notes 2. Guided Practice 3. Classwork (partners) **Resource/Materials:** Powerpoint, worksheets
Differentiation: *Content/Process/Product:* guided notes, guided practice *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* guided practice, USATestPrep *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* USATestPrep, Guided Notes, Guided Practice *Grouping Strategy:* Partners *Assessment:* Teacher Observation	**Differentiation:** *Content/Process/Product:* *Grouping Strategy:* Partners *Assessment:* teacher observation
Assessment: *Formative: :* thumbs up/down, monitoring classwork *Summative:*	**Assessment :** *Formative:* thumbs up/down, monitoring classwork *Summative:*	**Assessment :** *Formative:* thumbs up/down, monitoring classwork *Summative:*	**Assessment :** *Formative:* thumbs up/down, monitoring classwork *Summative:*	**Assessment :** *Formative:* thumbs up/down, monitoring classwork *Summative:*
Homework: Day 1 Functions Notations	**Homework**: Day 2 Creating Functions	**Homework:** Day 3 Slope/y-Intercepts	**Homework**: Slope-Intercept Form WS, Writing Equations of Lines Given a Graph	**Homework:** none

• **Algebra**. The branch of mathematics that deals with relationships between numbers, utilizing letters and other symbols to represent specific sets of numbers, or to describe a pattern of relationships between numbers.

• **Arithmetic Sequence**. A sequence of numbers in which the difference between any two consecutive terms is the same.

• **Average Rate of Change**. The change in the value of a quantity by the elapsed time. For a function, this is the change in the y-value divided by the change in the x-value for two distinct points on the graph.

• **Coefficient**. A number multiplied by a variable in an algebraic expression.

• **Constant Rate of Change**. With respect to the variable x of a linear function y = f(x), the constant rate of change is the slope of its graph.

• **Continuous**. Describes a connected set of numbers, such as an interval.

• **Discrete**. A set with elements that are disconnected.

• **Domain**. The set of x-coordinates of the set of points on a graph; the set of x-coordinates of a given set of ordered pairs. The value that is the input in a function or relation.

• **End Behaviors**. The appearance of a graph as it is followed farther and farther in either direction.

• **Equation**. A number sentence that contains an equals symbol.

• **Explicit Formula**. A formula that allows direct computation of any term for a sequence $a_1, a_2, a_3, \ldots, a_n, \ldots$.

• **Expression**. Any mathematical calculation or formula combining numbers and/or variables using sums, differences, products, quotients including fractions, exponents, roots, logarithms, functions, or other mathematical operations.

• **Factor**. For any number x, the numbers that can be evenly divided into x are called factors of x. For example, the number 20 has the factors 1, 2, 4, 5, 10, and 20.

• **Inequality**. Any mathematical sentence that contains the symbols > (greater than), < (less than), ≤ (less than or equal to), or ≥ (greater than or equal to).

• **Interval Notation**. A notation representing an interval as a pair of numbers. The numbers are the endpoints of the interval. Parentheses and/or brackets are used to show whether the endpoints are excluded or included.

• **Linear Function**. A function with a constant rate of change and a straight line graph.

• **Linear Model**. A linear function representing real-world phenomena. The model also represents patterns found in graphs and/or data.

• **Ordered Pair**. A pair of numbers, (x, y), that indicate the position of a point on a Cartesian plane.

• **Parameter**. The independent variable or variables in a system of equations with more than one dependent variable.

• **Range**. The set of all possible outputs of a function.

• **Recursive Formula**. A formula that requires the computation of all previous terms to find the value of an.

• **Slope**. The ratio of the vertical and horizontal changes between two points on a surface or a line.

• **Substitution**. To replace one element of a mathematical equation or expression with another.

• **Term**. A value in a sequence--the first value in a sequence is the 1st term, the second value is the 2nd term, and so on; a term is also any of the monomials that make up a polynomial.

• **Variable**. A letter or symbol used to represent a number.

• **X-intercept**. The point where a line meets or crosses the x-axis

• **Y-intercept**. The point where a line meets or crosses the y-axis