PCSD Lesson Planning Template

Grade Level 9th Algebra I	**Teacher/Room**: S. Pinson/Room 182		Week of: April 24-28, 2017	
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 Standard(s): **MGSE9-12.F.BF.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.	**GSE Standard(s)**: **MGSE9-12.F.BF.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.	**GSE Standard(s)**: **MGSE9-12.F.LE.1c** Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	**GSE Standard(s)**: **MGSE9-12.F.LE.1c** Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	**GSE Standard(s)**: **MGSE9-12.F.LE.1c** Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
EQ Question: How do I build new functions from existing functions?	**EQ Question:** How do I build new functions from existing functions?	**EQ Question:** How do I build new functions from existing functions?	**EQ Question:** How do I build new functions from existing functions?	**EQ Question:** How do I build new functions from existing functions?
Mini Lesson: Review Problems **Activating Strategies:** How can you make graphs wider or skinnier? **Lesson:** Transformations (part 2) 1. Guided Notes 2. Guided Practice 3. Assignment **Resource/Materials:** Guided Notes, Worksheets	**Mini Lesson:** Computer Lab **Activating Strategies:** What is the difference between a quadratic graph and an exponential graph? **Lesson:** Characteristics of Exponential Functions 1. Guided Notes 2. Guided Practice 3. Assignment 4. **Resource/Materials:** Guided Notes, Worksheets	**Mini Lesson:** Review Problems **Activating Strategies:** **Lesson:** Exponential Growth and Decay 1. Guided Notes 2. Guided Practice 3. Assignment 4. **Resource/Materials:** Guided Notes, Worksheets	**Mini Lesson:** Computer Lab **Activating Strategies:** **Task: from GDOE Frameworks**: Comparing Linear, Quadratic, and Exponential Models Graphically **Resource/Materials:** Task	**Mini Lesson:** Weekly Quiz **Activating Strategies:** **Lesson:** Arithmetic and Geometric Sequences **Resource/Materials:** Guided Notes, Worksheets
Differentiation: *Content/Process/Product:* *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* USATestPrep , Guided Notes *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* USATestPrep *Grouping Strategy:* *Assessment:*	**Differentiation:** *Content/Process/Product:* *Grouping Strategy:* *Assessment:*
Assessment : *Formative:* thumbs up/down, *Summative:*	**Assessment :** *Formative:* thumbs up/down, quiz *Summative:*	**Assessment :** *Formative:* thumbs up/down, *Summative:*	**Assessment :** *Formative:* thumbs up/down, *Summative:*	**Assessment :** *Formative:* thumbs up/down, *Summative:*
Homework: Day4 Transformations A	**Homework**: Day5 CharacteristicsOfExponentialFncs	**Homework**: Day6 Exponential Growth and Decay	**Homework**: Worksheet	**Homework**: Worksheet

- **Complete factorization over the integers**. Writing a polynomial as a product of polynomials so that none of the factors is the number 1, there is at most one factor of degree zero, each polynomial factor has degree less than or equal to the degree of the product polynomial, each polynomial factor has all integer coefficients, and none of the factor polynomial can written as such a product.
- **Completing the square**. Completing the Square is the process of converting a quadratic equation into a perfect square trinomial by adding or subtracting terms on both sides.
- **Difference of two squares**. A squared (multiplied by itself) number subtracted from another squared number. It refers to the identity $a^2 - b^2 = (a + b)(a - b)$ in elementary algebra.
- **Discriminant of a quadratic equation**. The discriminant of a quadratic equation of the form $ax^2 + bx + c = 0$, $a \neq 0$, is the number $b^2 - 4ac$.
- **Horizontal shift**. A rigid transformation of a graph in a horizontal direction, either left or right.
- **Perfect square trinomial**. A trinomial that factors into two identical binomial factors.
- **Quadratic equation**. An equation of degree 2, which has at most two solutions.
- **Quadratic function**. A function of degree 2 which has a graph that "turns around" once, resembling an umbrella–like curve that faces either right–side up or upside down. This graph is called a parabola.
- **Root**. The x–values where the function has a value of zero.
- **Standard form of a quadratic function**. $ax^2 + bx + c$
- **Vertex**. The maximum or minimum value of a parabola, either in terms of y if the parabola is opening up or down, or in terms of x if the parabola is opening left or right.
- **Vertex form of a quadratic function**. A formula for a quadratic equation of the form $f(x) = a(x - h)^2 + k$, where a is a nonzero constant and the vertex of the graph is the point (h, k).