Jane Long Academy Lesson Plan Template with Unpacking the Standards

 2015 – 2016

Course: Algebra 2

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| Teacher: Andrea Valencia-Hernandez | Lesson Plan Week of: September 7-11 |
|  |  | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| **Pre-Planning: Unpacking the Standards** | **TEKS:**(R) - Readiness Standard(S) -Supporting Standard | LABOR DAY | ALGII.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.ALGII.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.ALGII.1E Create and use representations to organize, record, and communicate mathematical ideas. | ALGII.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.ALGII.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.ALGII.1E Create and use representations to organize, record, and communicate mathematical ideas | **PS** ALGII.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.ALGII.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. | ALGII.1E Create and use representations to organize, record, and communicate mathematical ideas.**Ⓢ ALGII.7I** Write the domain and range of a function in interval notation, inequalities and set notation. |
| **Verb(s)**- What verbs define the actions students will need to take when mastering this objective? |  | Apply, select, use, analyze, justify, evaluate, communicate, create and demonstrate.  | Apply, select, use, analyze, justify, evaluate, communicate, create and demonstrate. | Apply, select, use, analyze, justify, evaluate, communicate, create and demonstrate. | Apply, select, use, analyze, justify, evaluate, communicate, create and demonstrate. |
| **Concept** -What am I teaching? -What do the students need to know? |  | Horizontal compression, horizontal translation, parameter, parent function, reflection over the x-axis. | Shift, Transformation, vertical compression, vertical stretch, vertical stretch. | Shift, Transformation, vertical compression, vertical stretch, vertical stretch. | Shift, Transformation, vertical compression, vertical stretch, vertical stretch. |
| **Context*****Readiness:**** Connections from previous grade level.
* To what degree will this impact learning two years down the road?

***Supporting:**** What Readiness Standards or concepts from the Readiness Standards does it support?
* How does it support the Readiness Standards?
 |  | The student is expected to extend parent functions with parameters such as a in f(x)= a/x and describe the effects of the parameter changes on the graph of parent functions.The student is expected to identify and sketch graphs of parent functions including linear, quadratic, exponential, and logarithmic functions, absolute value, square root and reciprocal**AlgII.2A Graph the functions,** $f\left(x\right)=\sqrt{x}$**,** $f\left(x\right)=\frac{1}{x}$**,** $f\left(x\right)=x^{3}$**,** $f\left(x\right)=\sqrt[3]{x}$**,** $f\left(x\right)=b^{x}$**,** $f\left(x\right)=\left|x\right|$**, and** $f\left(x\right)=log\_{b}x$ **where *b* is 2, 10, and *e* and when applicable analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum.** | The student is expected to extend parent functions with parameters such as a in f(x)= a/x and describe the effects of the parameter changes on the graph of parent functions.The student is expected to identify and sketch graphs of parent functions including linear, quadratic, exponential, and logarithmic functions, absolute value, square root and reciprocal.  | The student is expected to extend parent functions with parameters such as a in f(x)= a/x and describe the effects of the parameter changes on the graph of parent functions.The student is expected to identify and sketch graphs of parent functions including linear, quadratic, exponential, and logarithmic functions, absolute value, square root and reciprocal.  | The student is expected to extend parent functions with parameters such as a in f(x)= a/x and describe the effects of the parameter changes on the graph of parent functions.The student is expected to identify and sketch graphs of parent functions including linear, quadratic, exponential, and logarithmic functions, absolute value, square root and reciprocal.  |
| **I will know my students have mastered this standard when they can….** | . | Student is going to be able to describe the effects of parameter changes on a parent functions. | Student is going to be able to describe the effects of parameter changes on a parent functions. | Student is going to be able to identify and justify domain and range of a function. | Student is going to be able to collect, share, and interpret data. |
| **I will assess the standard by…..** | Check for Understanding:* Fist to Five
* Color Cards
* Essential Questioning
* Kahoot
* Exit Ticket
* Four Corners
 | Check for Understanding:* Fist to Five
* Color Cards
* Essential Questioning
* Kahoot
* Exit Ticket
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* Color Cards
* Essential Questioning
* Kahoot
* Exit Ticket
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| **Vocabulary**(Academic and Content) |  | Domain function, rigid transformations, range of a function, vertical shift, interval notation, vertical stretch, set notation, vertical compression, parent function, horizontal shift and parameter changes. | Domain function, rigid transformations, range of a function, vertical shift, interval notation, vertical stretch, set notation, vertical compression, parent function, horizontal shift and parameter changes. | Domain function, rigid transformations, range of a function, vertical shift, interval notation, vertical stretch, set notation, vertical compression, parent function, horizontal shift and parameter changes. | Domain function, rigid transformations, range of a function, vertical shift, interval notation, vertical stretch, set notation, vertical compression, parent function, horizontal shift and parameter changes. |
| **Lesson Topic** (Content Objective) |  | I can describe the effects of parameter changes on a parent function using graphs, equations, and tables. | I can describe the effects of parameter changes on a parent function using graphs, equations, and tables. | Review | Review |
| **ELPS** (Language Objective) |  | I can write a statement to describe the effects of parameter changes using appropriate vocabulary.  | I can write a statement to describe the effects of parameter changes using appropriate vocabulary. | I can justify the domain and range of functions using appropriate vocabulary. | I can collect, share, and interpret data using verbal descriptions to share information in my group |
| **Lesson Cycle** | **Engage:** **Warm-Up/Opening (min)** |  | Name that function |  | Put it in writing.Notation hint cards | Best fit |
| **Explore:****INM/Review (min):** |  | Transformation the absolute value function. | Transformation the absolute value function. Word bank | Pick and chooseFunction cards. | Two parts of a triangle, one relationship. |
| **Explain:****Guided Practice (min):** |  | Function transformation Notes. | Function transformation Notes. Word bank | Domain and range Whole group discussion | Finding a function to model a set of data. |
| **Elaborate:****Independent Practice (min):** |  | Who am I? | Who am I? Cards | Review | Review |
| **Evaluate:****Closing ( min.):** |  | quiz | Function Transformations. | Review | Review |
| **Reinforcement** | **Materials/ Resources:** |  | Scissors, makers, ruler, color pencil, graphing calculator. | Straightedge, communicators, markers, copies, pencil, smart board. | Straightedge, communicators, markers, copies, pencil, smart board. | Scissors, makers, ruler, color pencil, graphing calculator. |
| **Homework** |  | Monster Function | Practice | Reflect and apply | Scatter plots |
| **MODIFICATIONS and/or ACCOMODATIONS:***-Gifted and Talented**-ELL/ ESL**-Special Education* |  |  |  |  |  |