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: August 31- September 4 | | | |
|  |  | **Monday** | **Tuesday** | **Wednesday** | | **Thursday** | **Friday** |
| **Pre-Planning: Unpacking the Standards** | **TEKS:**  (R) - Readiness Standard  (S) -Supporting Standard | 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.  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. | 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. | Apply, select, use, analyze, justify, evaluate, communicate, create and demonstrate. |
| **Concept**  -What am I teaching?  -What do the students need to know? | Domain, all real numbers, function, line best fit, range, scatterplot, set data. | Domain, all real numbers, function, line best fit, range, scatterplot, set data. | 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. |
| **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 collect and organize data, interpret the results, and proceed to model, predict, and make decisions and critical judgments.  The student is expected to use the parent function to investigate, describe, and predict the effects of changes in a, h, and k on the graphs of y=a(x-h)^2 + k form of a function in applied and purely mathematical situations. | The student is expected to collect and organize data, interpret the results, and proceed to model, predict, and make decisions and critical judgments.  The student is expected to use the parent function to investigate, describe, and predict the effects of changes in a, h, and k on the graphs of y=a(x-h)^2 + k form of a function in applied and purely mathematical situations. | 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 collect, share, and interpret data. | Student is going to be able to collect, share, and interpret data. | Student is going to be able to describe the effects | | 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 * Four Corners | 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 * Four Corners | Check for Understanding:   * Fist to Five * Color Cards * Essential Questioning * Kahoot * Exit Ticket * Four Corners |
| **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. | 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 represent collected data and its scatterplot using a function that models that data | I can represent collected data and its scatterplot using a function that models that data | I can identify the domain and range of a function using verbal descriptions, inequalities, and interval notation. | | I can identify the domain and range of a function using verbal descriptions, inequalities, and interval notation. | I can represent collected data and its scatterplot using a function that models that data |
| **ELPS** (Language Objective) | I can collect, share, and interpret data using verbal descriptions to share information in my group | I can collect, share, and interpret data using verbal descriptions to share information in my group | I can justify the domain and range of functions 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)** | Best fit | Best fit sentence starter cards. | Put it in writing.  Notation hint cards | | Put it in writing.  Notation hint cards | Best fit |
| **Explore:**  **INM/Review (min):** | Two parts of a triangle, one relationship. | Two parts of a triangle, one relationship. | Pick and choose  Function cards. | | Pick and choose  Function cards. | Two parts of a triangle, one relationship. |
| **Explain:**  **Guided Practice (min):** | Finding a function to model a set of data. | Finding a function to model a set of data. | Domain and range  Whole group discussion | | Domain and range  Whole group discussion | Finding a function to model a set of data. |
| **Elaborate:**  **Independent Practice (min):** | The price of gasoline. | The price of gasoline. | Can you find it?  Individual | | Can you find it?  Individual | The price of gasoline. |
| **Evaluate:**  **Closing ( min.):** | quiz | quiz | Domain and range of functions. | | Domain and range of functions. | Scatterplots. |
| **Reinforcement** | **Materials/ Resources:** | Scissors, makers, ruler, color pencil, graphing calculator. | 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** | Scatter plots | Practice Absolute value functions review. | Practice | | Practice | Scatter plots |
| **MODIFICATIONS and/or ACCOMODATIONS:**  *-Gifted and Talented*  *-ELL/ ESL*  *-Special Education* |  |  |  | |  |  |