Jane Long Academy Lesson Plan Template with Unpacking the Standards

2015 – 2016

Course: Geometry

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| Teacher: Andrea Valencia-Hernandez | | | | | Lesson Plan Week of: WEEK #2 August 31- September 4 | | |
|  |  | **Monday** | **Tuesday** | **Wednesday** | | **Thursday** | **Friday** |
|  |  |  |  |  | |  |  |
| **Pre-Planning: Unpacking the Standards** | **TEKS:**  (R) - Readiness Standard  (S) -Supporting Standard | **G.1E** Create and use representations to organize, record, and communicate mathematical ideas.  **G. 1F** Analyze mathematical relationships to connect and communicate mathematical ideas.  **G. 2B Derive and use the distance**, slope, and midpoint formulas to verify geometric relationships, including the congruence of segments and parallelism or perpendicularity of pairs of lines | RG.4C – Verify that a conjecture is false using a counterexample. S.G.4A – Distinguish between undefined terms, definitions, postulates, conjectures, and theorems G.4B – Identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a bi-conditional statement and a true conditional statement with a true converse. | RG.4C – Verify that a conjecture is false using a counterexample. S.G.4A – Distinguish between undefined terms, definitions, postulates, conjectures, and theorems G.4B – Identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a bi-conditional statement and a true conditional statement with a true converse. | | G.1G - Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication. Logical Argument and Constructions. The student uses constructions to validate conjectures about geometric figures. The student is expected to: | RG.5A - Investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools. Proof and Congruence. The student uses the |
| **Verb(s)**  - What verbs define the actions students will need to take when mastering this objective? | Create, analyze, organize, calculate, explain, describe, narrate, communicate and verify | Distinguish, internalize, describe, narrate and explain. | Create, analyze, organize, calculate, explain, describe, narrate, communicate and verify | | Create, analyze, organize, calculate, explain, describe, narrate, communicate and verify | Create, analyze, organize, calculate, explain, describe, narrate, communicate and verify |
| **Concept**  -What am I teaching?  -What do the students need to know? | How are the Pythagorean Theorem and distance formula related to each other? | What makes a conditional statement? What makes a bi-conditional stamen? What is a conjecture? Why are counterexamples important? | What is the difference between undefined terms, definitions, postulates, conjectures, and theorems? | | Which ones are the properties of parallel and perpendicular lines? | How can be prove the relationship using angle measures? |
| **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 use and understand Pythagorean Theorem.  The students is expected to derive and use formulas involving length, slope, and midpoint.  The student is expected to write using newly acquired basic vocabulary and content based grade-level vocabulary. | The student is expected to use logical reasoning to prove statements are true and find counter examples to disprove statements that are false.  I can prove statements true and solve problems using logical reasoning.  I can prove statements false using counterexamples. | The student is expected to use logical reasoning to prove statements are true and find counter examples to disprove statements that are false.  I can prove statements true and solve problems using logical reasoning.  I can prove statements false using counterexamples | | The student is expected to identify pairs of lines and angles.  The students is expected to use parallel lines and transversals.  The student is expected to write using newly acquired basic vocabulary and content based grade-level vocabulary. | The student is expected to prove lines are parallel.  The students is find slope, of lines.  The student is expected to write using newly acquired basic vocabulary and content based grade-level vocabulary. |
| **I will know my students have mastered this standard when they can….** | When my students communicate and explain what it means | When my students communicate and determine conditional statements are false or true. | When my students communicate and determine conditional statements are false or true. | | When my students communicate and determine what it means | When my students communicate and explain what it means |
| **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) | Line segment, segment length, coordinates, theorem, Pythagorean theorem, hypotenuse, midpoint, slope, parallel, and distance formula. | Conditional, converse, inverse, contrapositive. | Conditional, converse, inverse, contrapositive. | | Parallel lines, skew lines, transversal, corresponding angles, alternate interior angles, consecutive interior angles. | Parallel lines, skew lines, transversal, corresponding angles, alternate interior angles, consecutive interior angles. |
| **Lesson Topic** (Content Objective) | I can calculate a segment’s length using the distance formula. | I can prove statements true and solve problems using logical reasoning. | I can prove statements false using counterexamples. | | I can calculate identify pairs of lines and angles. | I can use parallel and transversals. |
| **ELPS** (Language Objective) | The student is expected to narrate, describe, and explain with increasing specificity and detail to fulfill content area writing needs as more English is acquired. | The student is expected to develop expand repertoire of learning strategies such as reasoning deductively, looking for patterns in language, and analyzing sayings. | I can reason deductively using counterexamples. | | I can explain how to find a segment’s length using correct vocabulary. | The student is expected to narrate, describe, and explain with increasing specificity and detail to fulfill content area writing needs as more English is acquired. |
| **Lesson Cycle** | **Engage:**  **Warm-Up/Opening (min)** | Fold a segment bisector | **If you give a mouse a cookie. (book)** | **If you give a mouse a cookie. (book)** | | Coordinate plane Where are you? | Origami. |
| **Explore:**  **INM/Review (min):** | Which one is my coordinate? | Logical reasoning stations recording sheets. | Logical reasoning stations recording sheets. | | Investigation Angle relationship. | Which one is my coordinate? |
| **Explain:**  **Guided Practice (min):** | Midpoint, end point. | Vocabulary Diamond | Vocabulary Diamond | | Parallel postulate and perpendicular postulate. Folded notes. | Is the converse true? |
| **Elaborate:**  **Independent Practice (min):** | Finding lengths, and midpoints. | True or false? | True or false? | | Round Robin: Applying parallel and perpendicular lines. | Paragraph prove. |
| **Evaluate:**  **Closing ( min.):** | Distance Formula, midpoint and Pythagorean Theorem | Logical reasoning. | Logical reasoning. | | Parallel and perpendicular lines | Exit ticket. |
| **Reinforcement** | **Materials/ Resources:** | Region 4 book, copies, rulers, color pencils, pencils. | Region 4 book, copies, rulers, color pencils, pencils. | Region 4 book, copies, rulers, makers, color pencils, pencils. | | Discovery book, copies, protractor,rulers, color pencils, pencils. | Discovery book, copies, protractor, rulers, color pencils, pencils. |
| **Homework** | Basic Vocabulary review | Logic Puzzles | Logic Puzzles | | Basic Vocabulary review | Basic Vocabulary review |
| **MODIFICATIONS and/or ACCOMODATIONS:**  *-Gifted and Talented*  *-ELL/ ESL*  *-Special Education* |  |  |  | |  |  |