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 #4 September 14-18 | | |
|  |  | **Monday** | **Tuesday** | **Wednesday** | | **Thursday** | **Friday** |
|  |  |  |  |  | |  |  |
| **Pre-Planning: Unpacking the Standards** | **TEKS:**  (R) - Readiness Standard  (S) -Supporting Standard | 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  G.5B - Construct congruent segments, congruent angles, a segment bisector, an angle bisector, **perpendicular lines**, the perpendicular bisector of a line segment, and a line **parallel** to a given line through a point not on a line using a compass and a straightedge. | RG.6A - Verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and **angles formed by parallel lines cut by a transversal** and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems.  G.5C - Use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships. | **SGEOM.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.  **SGEOM.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.  **GEOM.4D** Compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle. | | **SGEOM.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.  **SGEOM.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.  **GEOM.4D** Compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle. | **SGEOM.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.  **SGEOM.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.  **GEOM.4D** Compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle. |
| **Verb(s)**  - What verbs define the actions students will need to take when mastering this objective? | Verify, investigate, construct and prove. | Create, analyze, organize, calculate, explain, describe, narrate, communicate and verify | Create, analyze, organize, calculate, explain, describe, narrate, communicate and verify | | Verify, investigate, construct and prove. | Create, analyze, organize, calculate, explain, describe, narrate, communicate and verify |
| **Concept**  -What am I teaching?  -What do the students need to know? | How do the physical constructs of a line correspond with the numeric attributes of parallel and perpendicular lines? | How do the physical constructs of a line correspond with the numeric attributes of parallel and perpendicular lines? | How can you show that the sum of the measures of the angles of a triangle is 180˚? | | Is the triangle sum theorem true on the surface of a cylinder, sphere, and right rectangular prism | Is the triangle sum theorem true on the surface of a cylinder, sphere, and right rectangular prism |
| **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 uses constructions to validate statements.  The students is expected to derive and use formulas involving length, parallel and perpendicular lines.  The student is expected to write using newly acquired basic vocabulary and content based grade-level vocabulary. | The student uses constructions to validate statements.  The students is expected to derive and use formulas involving length, parallel and perpendicular lines.  The student is expected to write using newly acquired basic vocabulary and content based grade-level vocabulary. |  | | The student uses constructions to validate statements.  The students is expected to derive and use formulas involving length, parallel and perpendicular lines.  The student is expected to write using newly acquired basic vocabulary and content based grade-level vocabulary. | The student uses constructions to validate statements.  The students is expected to derive and use formulas involving length, parallel and perpendicular 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 determine the meaning of this concept. | When my students communicate and explain the difference between parallel and perpendicular lines. | When my students communicate and determine special angles and parallel lines. | | 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) | 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. | Triangles  Parallel lines  Cylinder  Rectangular Prism  Sphere  Triangle Sum Theorem  Euclidean Geometry  Spherical Geometry | | Triangles  Parallel lines  Cylinder  Rectangular Prism  Sphere  Triangle Sum Theorem  Euclidean Geometry  Spherical Geometry | Triangles  Parallel lines  Cylinder  Rectangular Prism  Sphere  Triangle Sum Theorem  Euclidean Geometry  Spherical Geometry |
| **Lesson Topic** (Content Objective) | I can explain how a pair of lines can parallel or perpendicular lines. | I can explain how a pair of lines can parallel or perpendicular lines. | I can compare geometric relations between Euclidian and spherical geometries. | | I can compare geometric relations between Euclidian and spherical geometries. | I can compare geometric relations between Euclidian and spherical geometries. |
| **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 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 describe, explain and demonstrate the relationship between Euclidian and spherical geometries. | | The student is expected to describe, explain and demonstrate the relationship between Euclidian and spherical geometries. | The student is expected to describe, explain and demonstrate the relationship between Euclidian and spherical geometries. |
| **Lesson Cycle** | **Engage:**  **Warm-Up/Opening (min)** | Lets’ talk | **Let’s talk** | **Let’s cut triangles to verify 180 degrees!** | | **Let’s cut triangles to verify 180 degrees!** | Let’s prove it |
| **Explore:**  **INM/Review (min):** | Explain | Explain | Construction | | Construction | Explain |
| **Explain:**  **Guided Practice (min):** | Compare and contrast | Compare and contrast | Vocabulary Diamond | | Folded Notes. | Notes page |
| **Elaborate:**  **Independent Practice (min):** | Write down at least 5 sentences on how you determined the equations of lines that were **parallel** and **perpendicular**to the line given and passing through the point given | Write down at least 5 sentences on how you determined the equations of lines that were **parallel** and **perpendicular**to the line given and passing through the point given | Elaborate implications. | | Elaborate implications. | Write down at least 5 sentences on how you determined under which geometry are we working. |
| **Evaluate:**  **Closing ( min.):** |  | Quiz | Students to explain why there are no parallel lines that can be drawn on a sphere | | Students to explain why there are no parallel lines that can be drawn on a sphere | Students to explain why there are no parallel lines that can be drawn on a sphere |
| **Reinforcement** | **Materials/ Resources:** |  | Region 4 book, copies, rulers, color pencils, pencils. | Region 4 book, copies, rulers, makers, color pencils, pencils. | | Region 4 book, copies, rulers, color pencils, pencils. | Region 4 book, copies, rulers, color pencils, pencils. |
| **Homework** |  | Practice | Practice | | Vocabulary review | Practice review |
| **MODIFICATIONS and/or ACCOMODATIONS:**  *-Gifted and Talented*  *-ELL/ ESL*  *-Special Education* |  |  |  | |  |  |