UNIT OF STUDY

Title: Unit 5   **Subject/Course**: Geometry   **Length:** 10 days

Topic: types of segments/properties of triangles/ tessellations/ logic **Grade:** 10th   **Designer:** Boyd

UNIT GOALS AND EXPECTATIONS

IMPORTANT CONCEPTS/UNDERSTANDINGS:
- Use the sum of the angles of a triangle to find missing angles
- Find the parts of a triangle using the 5 types of interior segments
- Tessellations of regular polygons
- Draw the side views of figures given the 3-dimensional object

ESSENTIAL QUESTIONS:
- What is the sum of the interior angles of a triangle?
- What are the 5 types of interior segments of a triangle?
- What is a tessellation?
- What is a regular polygon?
- What is a mat view?

STUDENT LEARNING EXPECTATIONS:
- T.2.G.3 Identify and use the special segments of triangles (*altitude*, *median*, angle *bisector*, *perpendicular bisector*, and *midsegment*) to solve problems
- R.4.G.2 Solve problems using properties of polygons:
  - sum of the measures of the *interior angles of a polygon*
  - interior and *exterior angle measure of a regular polygon* or *irregular polygon*
  - number of sides or angles of a polygon

SPECIFIC DECLARATIVE KNOWLEDGE – What I know
- Vocabulary: altitude, median, angle bisector, perpendicular bisector, midsegment, tessellation, regular polygon, logic, matrix
- Identify altitude, median, angle bisector, perpendicular bisectors, and midsegment

SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do
- Solve problems using properties of altitudes, medians, angle bisectors, perpendicular bisectors, and midsegment
- Solve problems using triangle inequality theorem
- Order the sides of a triangle given the angle measurements
- Order the angles of a triangle given the side lengths
- Determine the length of the sides of a triangle algebraically
- Sketch isosceles triangles given the perimeter
- Sketch tessellations of regular polygons
- Sketch the side views of figures given the 3-dimensional object
- Solve logic problems using matrices

UNIT ASSESSMENTS
(Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)

- Open Response Unit 5 question 1 mat view
- Open Response Unit 5 question 2 logic
- Open Response Unit 5 question 3 logic
- Open Response Unit 5 question 4 triangle inequality theorem

Traditional Assessments:	Other Evidence of Learning:	
• Segments of Triangles Quiz (on smart board) • Isosceles and Equilateral Triangle Quiz • Unit 5 Test • TLI module test • Vocabulary Quiz	• Homework • Class work	

ACTIVITIES AND LEARNING EXPERIENCES	Resources
• Introduce vocabulary using 4-step strategy • Students will make mental picture of each type of segment and then describe in their own words • "Slap the board" (Identify interior segments of triangles) • Students will use isometric drawings to create faces of a cubic structure • Build 3-D images using cubes then draw the different views (in groups) • Practice concepts using mastery math materials • Use real world information to solve logic problems	• Draw pictures on white board • Blocks, graph paper • Mastery math notebook
Career Connections	
Architecture, Cardiology Technicians, Air Traffic Controller	