Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 8* / Grade 8 (Math Regional Curriculum)

Wednesday, October 31, 2012, 1:39PM

Standard/Module: Proficiency with Geometry: 8.G.5 (Week 1, 4 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) 8.G.1
  8.G.2
  8.G.3
  8.G.4
  8.EE.6

Grade 8 Map

Standards

NYS: CCLS:Mathematics, NYS: 8th Grade , Geometry

8.G Understand congruence and similarity using physical models, transparencies, or geometry software.

- 5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Enduring Understandings	Essential Questions
Understanding angle relationships in geometric problems/representations.	1. How are the measures of angles related when parallel lines are cut by a transversal? 2. How do you find the interior and exterior angles measures of a triangle, given an angle? 3. How do you find the angle measure of all the angles, given the measure of one angle when parallel lines are cut by a transversal?

Critical Content

1. Sum of interior angles

- Equal to sum of measures of the non-adjacent angles

2. Relationships of angles created by parallel lines cut by a transversal

3. Angle-angle (informal) proof of similar triangles

Skills	Vocabulary
1. Understand that the measure of an exterior angle of a triangle is equal to the sum of the measures of the non-adjacent angles.	Tier 2: complementary pairs, supplementary pairs

2. Know that the sum of the angles of a triangle equals 180°. 3. Determine the relationship between adjacent angles, corresponding angles, alternate interior angles, alternate exterior angles, vertical pairs, and supplementary pairs when parallel lines are cut by a transversal. 4. Recognize that if two triangles have two congruent angles, then they are similar triangles (angle-angle).	Tier 3: adjacent angles, alternate exterior angles, alternate interior angles, corresponding angles, exterior angle of a triangle, non-adjacent angles of a triangle, parallel lines, perpendicular lines, transversal, transformations, vertical pairs

Stage 2: Assessment Evidence

Assessments

Triangles and Transversals
Formative: Performance: Authentic Task

Use the learning activities as informal assessment and use an exit slip for each of the three parts of the standard to determine whether students independently understand the concepts.

Stage 3: Learning Plan

Learning Activities	Resources
Students should draw a set of parallel lines and cut the set with a transversal line, using a straight edge to draw. By having students construct the drawing, it will help them to draw their attention to the parts of the diagram. Challenge students to find examples of parallel line cut by a transversal in the real world and bring in examples of pictures. Use a protractor to determine one angle, and work to find the measures of the rest mathematically. Work on determining the exterior angles of a triangle, using geometry software if possible. Prove two triangles are similar or congruent if I know two angles of each triangle.	www.mathwarehouse.com www.illuminations.nctm.org www.illustrativemathematics.org

Differentiation Opportunities

Advanced students can work, once they understand proving two triangles congruent, on formulating a general rule about other shapes besides triangles, and experiment with their ideas. Challenge students to bring in real-world examples of a set of parallel lines cut by a transversal.

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