Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Wednesday, October 31, 2012, 1:37PM

Standard/Module: Proficiency with Geometry: 8.G.2 (Week 1, 4 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) 8.G.1
  8.G.3
  8.G.4
  8.G.5
  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.

- 2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

Enduring Understandings	Essential Questions
Understand that two dimensional figures remain congruent after a transformation.	How is congruency preserved under a transformation (not dilation)?

Critical Content

Congruency of two-dimensional figures

- Rotation
- Reflection
- Translation
- Combination of transformations

Skills	Vocabulary
preserved, rotation, reflection, translation, transformation	Tier 2: congruent, two-dimensional, sequence Tier 3: preserved, rotation, reflection, translation, transformation

Stage 2: Assessment Evidence

Assessments

Transformations
Formative: Performance: Skill Demonstration

Students are given a polygon drawn on a coordinate plane and asked to perform a combination of rotations, reflections and translations given specific criteria (eg. reflect over the x-axis and rotate 45 degrees).

Students are asked to prove that two shapes are congruent when given two polygons on a coordinate plane, justifying congruency or non-congruency by explaining what combinations of rotations, reflections or translations would need to occur.

Stage 3: Learning Plan

Learning Activities	Resources
It is important that students have an opportunity to work with transformations in a "hands-on" setting. They should perform **combinations of** rotations, reflections and translations both on paper and using technology (Geometry software, for example).	www.mathwarehouse.com www.illuminations.nctm.org www.illustrativemathematics.org Math Warehouse Interactives Free Downlaod of Geometer's Sketchpad NCTM Illuminations Illustrative Mathematics Project

Differentiation Opportunities

The difficulty of tasks for this standard can be tiered. For example, struggling students could be doing reflections, rotations and translations with one and two steps, students who are on grade-level could be doing two or three step problems. Students who need enrichment could be determining the combinations of transformations that were used to move a polygon from one position to another on a coordinate grid, or creating problems for other students to solve.

<< Previous Year

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