Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Wednesday, October 31, 2012, 1:38PM

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

Stage 1: Desired Results

Standards Focus

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

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

Enduring Understandings	Essential Questions
Understand similarity and congruency of figures	Can you describe the sequence of transformations that will exhibit similarity between two-dimensional figures?

Critical Content

Similar figures formed by transformations
- Translation
- Reflection
- Rotation
- Dilation

Skills	Vocabulary
1. Understand similar figures (7.G.1). 2. Understand that any combination of transformations will result in similar figures. 3. Describe the sequence of transformations needed to show how one figure is similar to another. 4. Use scale factor to dilate two-dimensional figures.	Tier 2: corresponding, congruent, proportional Tier 3: dilation, reflection, rotation, scale factor, similar figures, transformation, translation, similarity symbol (~)

Stage 2: Assessment Evidence

Assessments

Proving Similarity or Congruence Through Transformations
Formative: Performance: Authentic Task

Students are given a polygon drawn on a coordinate plane and asked to perform a combination of rotations, reflections and translations given specific criteria to prove whether two figures are similar, congruent, or neither.

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. Students use coordinates and prime notation to justify their ideas.

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) to prove whether or not two figures are similar or congruent, or not similar or not congruent.	www.mathwarehouse.com www.illuminations.nctm.org www.illustrativemathematics.org

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 to prove whether there is similarity or congruence (or neither), students who are on grade-level could be doing two or three step problems. Students who need enrichment could creating problems for other students to solve.

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