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.3 (Week 1, 4 Weeks)

Stage 1: Desired Results

Standards Focus

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

- 3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

Enduring Understandings	Essential Questions
Effects of transformation on two-dimensional figures	Given a two-dimensional figure can you describe the effect of dilation? Reflection? Rotation? Translation?

Critical Content

1. Graph two-dimensional figures on the coordinate plane

- Rotation
- Dilation
- Reflection
- Translation

2. Use coordinates to describe a transformation.

- Rotation
- Dilation
- Reflection
- Translation

Skills	Vocabulary
1. Understand how to dilate, translate, rotate, and reflect two-dimensional figures on the coordinate plane. 2. Describe the effects of dilations, translations, rotations, and reflections using coordinates.	Tier 2: transformation, coordinates Tier 3: dilation, rotation, reflection, translation,

3. Given an image and its transformed image, use coordinates to describe the transformation. Given an original image and transformed image, use prime notation (A').	image, prime notation, center of rotation, angle of rotation, line of reflection

Stage 2: Assessment Evidence

Assessments

Transformations
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 (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. 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).	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, 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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