Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 4* / Grade 4 (Math Regional Curriculum)

Wednesday, October 31, 2012, 10:41AM

Standard/Module: Proficiency in Geometry - 4.G.3 (Week 18, 5 Weeks)

Stage 1: Desired Results

Standards Focus

- Additional (10%) Connects with 4.G.1 and 4.G.2

4th Grade Proficiency Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 4th Grade , Geometry

4.G Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

- 3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Enduring Understandings

1. A line of symmetry for a two-dimensional figure is a line across the figure such that the figure can be folded along the line into matching parts.
2. Our world has many symmetrical and non-symmetrical objects in it.
3. Art, Architecture, Construction, and Fashion deal with symmetry.

Essential Questions

1. What does a line of symmetry look like?
2. How can you tell if an object is symmetrical or not symmetrical?
3. How do you draw a line of symmetry?

Critical Content

1. Two-dimensional figure
2. Line of symmetry
3. Line-symmetric figures
4. Matching Parts
5. Symmetrical vs. Non-symmetrical
6. Regular/Non-regular polygons

Skills

1. Students will recognize lines of symmetry in two-dimensional figures.

Vocabulary

Tier 2: two-dimensional, line, figure

2. Students will identify line-symmetric figures. 3. Students will be able to draw lines of symmetry. 4. Students will be able to describe the difference between symmetrical and non-symmetrical two - dimensional figures.	Tier 3: symmetric, line of symmetry, non-symmetric, polygon, regular polygon

Stage 2: Assessment Evidence

Assessments

Formative: Other: Quiz

Students will be given 10 questions. Each question will have a two-dimensional figure drawn and students will be asked to draw the lines of symmetry.

Stage 3: Learning Plan

Learning Activities	Resources
When introducing line of symmetry, provide examples of geometric shapes with and without lines of symmetry. Shapes can be classified by the existence of lines of symmetry in sorting activities. This can be done informally by folding paper, tracing, creating designs with tiles or investigating reflections in mirrors. With the use of a dynamic geometric program, students can easily construct points, lines and geometric figures. They can also draw lines perpendicular or parallel to other line segments. Symmetry can be related to experiences in art	**Instructional Resources/Tools** Mirrors Geoboards GeoGebra (a free software for learning and teaching); http://www.geogebra.com. www.illustrativemathematics.org www.illuminations.nctm.org

Differentiation Opportunities

Students need experiences with figures which are symmetrical and non-symmetrical. Figures include both regular and non-regular polygons. Folding cut-out figures will help students determine whether a figure has one or more lines of symmetry.

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