Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 5* / Grade 5 (Math Regional Curriculum)

Wednesday, October 31, 2012, 11:28AM

Standard/Module: Proficiency in Geometry 5.G.4 (Week 28, 4 Weeks)

Stage 1: Desired Results

Standards Focus

- Additional (10%) Connects to 5.G.3

5th Grade Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 5th Grade , Geometry

5.G Classify two-dimensional figures into categories based on their properties.

- 4. Classify two-dimensional figures in a hierarchy based on properties.

Enduring Understandings

1. Two and three dimensional objects with or without curved surfaces can be described, classified, and analyzed by their attributes.
2. An object's location in space can be described quantitatively.
3. Plane shapes have many properties that make them different from one another.
4. Polygons can be described and classified by their sides and angles.
5. Commonalities in attributes of objects or situations can be found and used to make generalizations about relationships.
6. Points, lines, and planes are the building blocks for geometry.

Essential Questions

1. How can angles be measured and classified?
2. How can quadrilaterals be described, classified, and named?
3. What is the relationship between a square and a rectangle?
4. What are special quadrilaterals?

Critical Content

Geometry

-polygons

-angles

-lines

-quadrilaterals

-2D objects

Skills	Vocabulary
1. Students must be able to describe and classify lines and angles. 2. Students must be able to classify quadrilaterals by their side lengths, how their sides are related, and angle measures. 3. Students must be able to classify 2D shapes into categories based on their properties.	Tier 2- attributes, classify, analyze, properties, commonalities, relationships Tier 3- polygons, angles, two dimensional, quadrilateral, right, parallelogram, trapezoid, rhombus, square, rectangle

Stage 2: Assessment Evidence

Assessments

Guess My Rule
Formative: Performance: Skill Demonstration

Students take turns grouping two-dimensional figures together that share a common attribute and their partners guess what attribute they have in common. Each partner documents the attribute guessed and records points for whether or not they guessed correctly. The attribute/point sheet is collected from partners after 10 trials.

Stage 3: Learning Plan

Learning Activities	Resources
This standard calls for students to reason about the attributes (properties) of shapes. Student should have experiences discussing the property of shapes and explaining their reasoning. *Geometric properties include properties of sides (parallel, perpendicular, congruent), properties of angles (type, measurement, congruent), and properties of symmetry* *(point and line).* **Example**: Examine whether all quadrilaterals have right angles. Give examples and nonexamples.	www.illustrativemathematics.org www.illuminations.nctm.org http://illuminations.nctm.org/ActivityDetail.aspx?ID=70

Example: If the opposite sides on a parallelogram are parallel and congruent, then rectangles are parallelograms. A sample of questions that might be posed to students include: -A parallelogram has 4 sides with both sets of opposite sides parallel. What types of quadrilaterals are parallelograms? Explain. -Regular polygons have all of their sides and angles congruent. Name or draw some regular polygons. Explain your drawings. -All rectangles have 4 right angles. Squares have 4 right angles so they are also rectangles. True or False? Explain your reasoning. -A trapezoid has 2 sides parallel so it must be a parallelogram. True or False? Explain your reasoning. This cluster builds from Grade 3 when students described, analyzed and compared properties of two-dimensional shapes. They compared and classified shapes by their sides and angles, and connected these with definitions of shapes. In Grade 4 students built, drew and analyzed two-dimensional shapes to deepen their understanding of the properties of two-dimensional shapes. They looked at the presence or absence of parallel and perpendicular lines or the presence or absence of angles of a specified size to classify two-dimensional shapes. Now, students classify two-dimensional shapes in a hierarchy based on properties. Details learned in earlier grades need to be used in the descriptions of the attributes of	

shapes. The more ways that students can classify and discriminate shapes, the better they can understand them. The shapes are not limited to quadrilaterals.	

Differentiation Opportunities

Students can use graphic organizers such as flow charts or T-charts to compare and contrast the attributes of geometric figures. Have students create a T-chart with a shape on each side. Have them list attributes of the shapes, such as number of side, number of angles, types of lines, etc. they need to determine what's alike or different about the two shapes to get a larger classification for the shapes and be able to explain these properties.

Pose questions such as, "Why is a square always a rectangle?" and "Why is a rectangle not always a square? "Expect students to use precision in justifying and explaining their reasoning.

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