Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 6* / Grade 6 (Math Regional Curriculum)

Wednesday, October 31, 2012, 12:11PM

Standard/Module: Proficiency with Geometry Concepts 6.G.3 (Week 25, 7 Weeks)

Stage 1: Desired Results

Standards Focus

- Supporting (20%) Links to 6.NS.3, 6.NS.8, 6.EE.9

6 Grade CCS Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 6th Grade , Geometry

6.G Solve real-world and mathematical problems involving area, surface area, and volume.

- 3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

Enduring Understandings	Essential Questions
1. Polygons can be created on a coordinate plane using coordinates for the vertices. 2. Understand that if two coordinates have the same x or y value they are on the same line. 3. Understand that the distance from a point on a coordinate plan to an axis is an absolute value. 4. Understand that the units on a coordinate plane define the unit of distance measure. 5. Understand that the coordinate plane can be used to represent real word contexts.	1. What real life objects can we create using ordered pairs on a coordinate plane? 2. How are maps connected to coordinate planes?

Critical Content
1. Coordinate planes (4 quadrants) a. point b. quadrant c. axis (x and y) d. coordinates e. origin f. reflection g. ordered pairs h. plane i. plotting 2. Polygons (identify the different types) 3. Area= lw

Skills	Vocabulary
1. Understand that a line segment from one coordinate pair to another represents a distance. 2. Find distances between points with the same first coordinate of the same second coordinate 3. Find the distance between two points 4. Find the length of a line segments 5. Graphing points in all four quadrants of the coordinate plane 6. In conjunction from 6.NS.8 in real world applications 7. Create polygons using coordinates for the vertices. 8. Finding the area of a polygon and using the	Tier 2: plane coordinate distance points length quadrant axis vertex/vertices

correct formula.	polygons origin Tier 3: x-coordinate y-coordinate x-axis y-axis 4 quardrants (I, II, III, IV)

Stage 2: Assessment Evidence

Assessments

Formative: Performance: Skill Demonstration

1.) Students will be given three of the four points on the coordinate plane that represents a rectangle and they will then have to answer the following:

a.)Find the fourth vertex?

b.) How do you know that is the 4th vertex of the rectangle?

c.) What are the length and width of the rectangle?

d.) Find the area and the perimeter of the rectangle.

2.) On a map, the library is located at (-2, 2), the city hall building is located at (0,2), and the high school is located at (0,0). Represent the locations as points on a coordinate grid with a unit of 1 mile.

a.) What is the distance from the library to the city hall building?

b.) What is the distance from the city hall building to the high school? How do you know?

c.).What shape does connecting the three locations form?

d.) The city council is planning to place a city park in this area. How large is the area of the planned park?

Stage 3: Learning Plan

Learning Activities	Resources
This standard can be taught in conjunction with **6.G.1** to help students develop the formula for the triangle by using the squares of the coordinate grid. Given a triangle, students can make the corresponding square or rectangle and realize the triangle is just doubled.	http://engageny.org/common-core/
White board practice using the coordinate plane side of the white boards would be good practice in finding a missing coordinate as well as finding the area of the polygon.	http://illustrativemathematics.org/ www.livebinders.com/play/play/52180 http://illuminations.nctm.org/ http://www.mathsisfun.com/geometry/polyhedron.html http://www.korthalsaltes.com/

Differentiation Opportunities

Where Am I?

Materials Two sheets of blank paper, pencil

In this topic, your student will solve equations with more than one operation, use patterns to write rules

and equations to describe the patterns, and then use the rules and equations to extend patterns.
Your student will also graph points and linear equations in a coordinate plane. He or she will learn how to use reasoning and acting out a problem to solve word problems.

You can help your student understand the concept of a coordinate plane by playing the game below.
the signs of the x- and y- coordinates in the quadrant. So, (23, 1) would be located in Quadrant II. Use this sheet as a reference.

Step 2 On a second sheet of paper, draw a coordinate plane, but do not include quadrants and ordered pairs. Use this sheet to play the game.

Step 3 Ask your student to identify and locate the quadrant of an ordered pair, such as (25, 24) answer: Quadrant III. Continue until your student correctly identifies the quadrant, and then switch roles.

Step 4 Vary the game by naming a quadrant and asking your student to locate the quadrant and give a possible ordered pair in that quadrant.

<< Previous Year

Last Updated: Sunday, October 7, 2012, 10:18AM

Atlas Version 7.2.6
© Rubicon International 2012. All rights reserved