Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 2* / Grade 2 (Math Regional Curriculum)

Wednesday, October 31, 2012, 4:09PM

Standard/Module: Proficiency with Shapes 2.G.3 (Week 37, 3 Weeks)

Stage 1: Desired Results

Standards Focus

- Supporting (20%) connects with 2.G.1,3

Gr. 2 Proficiency Map

Standards

NYS: CCLS:Mathematics, NYS: 2nd Grade , Geometry

2.G Reason with shapes and their attributes.

- 3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

Enduring Understandings	Essential Questions
1. A shape can be partitioned into equal-sized parts. 2. Equal shares of identical wholes can be different shapes 3. The equal parts of a whole can be named as fractions (halves, thirds, fourths). 4. The whole shape is composed of all of its equal parts (3 thirds, 4 fourths,etc.)	1. How many ways can you partition a given shape into *n* equal part? (*n*=2,3,4) 2. How can you justify that the parts are equal?

Critical Content

1. Equally partitioned shapes can be named as fractions.

2. Use the number of equal parts to determine the names of the fractional pieces (halves, thirds, fourths)

Skills	Vocabulary
1. Partition shapes into a given number of equal parts. 2. Name those parts as fractions. (halves, thirds, fourths)	Tier two: partition Tier three: fraction, half (halves), third, fourth

Stage 2: Assessment Evidence

Assessments

Fair Share It!

Formative: Test: Written

Students are asked to "fair share" items with their friends such as a brownie or a cookie or a pizza. Students must create a drawing to show how much each person will get if something is shared equally and write the amount as "half of", "a third of", "a fourth of", etc.

Students can be asked to break up an item into a particular fraction in at least three different ways (for example: S*how how you could cut this brownie into halves in at least three different ways so that each person gets exactly the same amount*.)

Stage 3: Learning Plan

Learning Activities	Resources
It is vital that students understand different representations of fair shares. Provide a collection of different-size circles and rectangles cut from paper. Ask students to fold some shapes into halves, some into thirds, and some into fourths. They compare the locations of the folds in their shapes as a class and discuss the different representations for the fractional parts. To fold rectangles into thirds, ask students if they have ever seen how letters are folded to be placed in envelopes. Have them fold the paper very carefully to make sure the three parts are the same size. Ask them to discuss why the same process does not work to fold a circle into thirds. Students should be given ample experiences to explore this concept with paper strips and pictorial representations. Students should also work with the vocabulary terms halves, thirds, half of, third of, and fourth (or quarter) of. While students are working on this standard, teachers should help them to make the connection that a "whole" is composed of two halves, three thirds, or four fourths. This standard also addresses the idea that equal shares of identical wholes may not have the same shape.	www.illuminations.nctm.org www.illustrativemathematics.org

Example: *Divide each rectangle into fourths a different way.* This standard introduces fractions in an **area model**. Students need experiences with different sizes, circles, and rectangles. For example, students should recognize that when they cut a circle into three equal pieces, each piece will equal one third of its original whole. In this case, students should describe the whole as three thirds. If a circle is cut into four equal pieces, each piece will equal one fourth of its original whole and the whole is described as four fourths. It is important for students to see circles and rectangles partitioned in multiple ways so they learn to recognize that equal shares can be different shapes within the same whole. An interactive whiteboard may be used to show partitions of shapes.	

Differentiation Opportunities

Students may believe that a region model represents one out of two, three or four fractional parts without regard to the fact that the parts have to be equal shares, e.g., a circle divided by two equally spaced horizontal lines represents three thirds. Show students how to partition circles starting at the center and making radii to the outside edge of the circle. In some cases, drawing diameters across the circle will work as well.

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