Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Wednesday, October 31, 2012, 12:07PM

Standard/Module: Proficiency with Rational Numbers 6.NS.1 (Week 17, 8 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) 6.RP.3, 6.EE.2, 6.EE.7, 6.G.2

6th Grade CCS Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 6th Grade , The Number System

6.NS Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

- 1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

Enduring Understandings	Essential Questions
1. Knowing that multiplication and division are inverse operations	1. Why do we use the reciprocal when dividing fractions?
2. Multiplying fractions means taking part of a part	2. Why does multiplying by the reciprocal give you the same answer as dividing by the initial fraction?
3. Dividing fractions is multiplying by the reciprocal	3. Why is there no algorithm of dividing fractions?

Critical Content

- Quotients of fraction
- reciprocal
- Word problems involving division of fractions by fractions
- Fraction models and equations
- Understanding how to set up a problem based on the context of it
- Interpret what the quotient represents
- Understanding that multiplication and division are inverse operations

Skills	Vocabulary

1. Interpret and computer quotients of fractions 2. Solve word problems involving division of fractions by fractions 3. Using visual fractions 4. Represent the problem using visual fraction models and equations 5. Find greatest common factors 6. Determine least common multiple	Tier 2: interpret compute visual extend Tier 3: quotient fraction equation dividend divisor quotient reciprocal multiplicative inverse

Stage 2: Assessment Evidence

Assessments

Skill based
Formative: Performance: Skill Demonstration

Use representations to show that 1/4 divided by 1/2 is 1/2, that 2/3 divided by 2/5 is 5/3, that 2/3 divided by 3/4 is 8/9, and that 11/2 divided by 6/4 is 1.

Problem Task
Formative: Performance: Skill Demonstration

You have 5/8 pound of Skittles. You want to give your friends 1/4 lb. each. How many friends can you give Skittles to? Explain your answer.

You have a 3/4-acre lot. You want to divide it into 3/8-acre lots. How many lots will you have? Draw a diagram to justify your solution.

You have a 3/4-acre lot. You want to divide it into 2 sections. How many acres in each section will you have? Draw a diagram to justify your solution.

How wide is a rectangular strip of land with length 3/4 mi. and area 1/2 square mi.?

Stage 3: Learning Plan

Learning Activities	Resources
Which Operation Did I Use? Materials two sheets of paper, pencil Multiplying and dividing fractions by challenging your students to identify missing operations. Step 1 Without showing your child, multiply and divide two fractions, such as 2/3 and 5/8, on a sheet of paper. Write the product and quotient on the paper. Step 2 On the second sheet of paper write 2/3 ? 5/8 =5/12 and 2/3 ? 5/8 = 1 1/15 Step 3 Challenge your child to tell whether you multiplied or divided. Encourage him or her to look for a relationship pattern. Ask whether multiplying two fractions results in a product that is greater or less than the factors. (less) Ask whether dividing two fractions results in a quotient that is greater or less than the divisor. (greater) Then help him or her work through the two problems to check.	http://engageny.org/common-core/ http://illustrativemathematics.org/ www.livebinders.com/play/play/52180 http://illuminations.nctm.org/ http://www.mathsisfun.com/geometry/polyhedron.html
Use this problem: How many servings of popcorn are in 41/2 cups if each person receives 3/4 cup of popcorn The teacher provides 41/2 cups of popcorn. Students use a 3/4 cup measuring cup to solve the problem. Record solutions as a group. 1. Think-Pair-Draw-Share: Put students in pairs. Have one solve the problem using a picture/diagram and the other solve using the algorithm. Then they get together and compare. 2. Think-Pair-Share: Students solve the problem on their own, then get together and discuss how their solutions are the same and how they are different. 3. Four Corners: Give students a problem and the quotient. Give each corner in your room a label and have students go to the corner they think would be the correct label for the quotient.	http://www.korthalsaltes.com/ http://nlvm.usu.edu/en/nav/frames_asid_265_g_2_t_1.html?open=activities&from=category_g_2_t_1.html

Differentiation Opportunities

REVIEW CONCEPT OF FRACTIONS

Finding Fractions in Real World Applications
Identifying fractions at home, school, etc can help your student become comfortable with fraction terms. Use fractions when preparing and serving food, to describe your family, or in other familiar home situations. Encourage your student to answer questions such as these:
• What fraction of eggs is left in the carton?
• What fraction of the pizza is there in two slices? three?
• What fraction of our family is female?
• What fraction of our family is home by 4:00 P.M.?
• What fraction of your allowance did you spend this week? What fraction did you save?
• What fraction of the day did you spend at school? What fraction did you spend sleeping or doing homework?

<< Previous Year

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