Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Wednesday, October 31, 2012, 10:44AM

Standard/Module: Proficiency in Fractions - 4.NF.5 (Week 32, 4 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) Connects with 4.NF.6, 4.NF.7. 4.NF.1, and 4.NF.2

4th Grade Proficiency Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 4th Grade , Number & Operations—Fractions

4.NF Understand decimal notation for fractions, and compare decimal fractions.

- 5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.

Enduring Understandings

1. A fraction with a denominator of 10 can be expressed as an equivalent fraction with a denominator of 100.
2. Two fractions with respective denominators of 10 and 100 can be added together using the equivalent fraction technique.

Essential Questions

1. How do we express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100?
2. How can we apply the equivalent fraction technique to add two fractions with respective denominators of 10 and 100?

Critical Content

1. Fraction

- numerator/denominator
- denominator of 10, denominator of 100
- equivalent fraction

2. Addition of fractions with denominators of 10 and 100

- Find common denominator
- Find equivalent fractions using identity
- Use algorithm to add fractions

Skills

1. Students will express a fraction with a denominator of 10 as an equivalent fraction

Vocabulary

Tier 2: fraction, denominator

with a denominator of 100. 2. Students will be able to add two fractions with respective denominators of 10 and 100. For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.	Tier 3: express, equivalent fraction, technique

Stage 2: Assessment Evidence

Assessments

Formative: Other: Quiz

Students will be given a quiz that has 5 questions where they will be given a fraction with a denominator of 10 and they will have to express an equivalent fraction with a denominator of 100. The next 5 questions will involve adding fractions that have denominators of 10 and 100.

Stage 3: Learning Plan

Learning Activities	Resources
This standard continues the work of equivalent fractions by having students change fractions with a 10 in the denominator into equivalent fractions that have a 100 in the denominator. In order to prepare for work with decimals (4.NF.6 and 4.NF.7), experiences that allow students to shade decimal grids (10x10 grids) can support this work. **Student experiences should focus on working with grids rather than algorithms.** Students can also use base ten blocks and other place value models to explore the relationship between fractions with denominators of 10 and denominators of 100. This work in fourth grade lays the foundation for performing operations with decimal numbers in fifth grade. It is important that students make connections	**Instructional Resources/Tools** Length or area models 10 x 10 square on a grid Decimal place-value mats Base-ten blocks Number lines Nctm.org (Illuminations): *A Meter of Candy* – In this series of three hands-on activities, students develop and reinforce their understanding of hundredths as fractions, decimals and percentages. Students explore with candy pieces as they physically make and connect a set and linear model (meter) to produce area models (grids and pie graphs). At this time, students are not to do percents. The relationships among fractions, decimals and percents are developed in Grade 6. www.illustrativemathematics.org

between fractions and decimals. They should be able to write decimals for fractions with denominators of 10 or 100. Have students say the fraction with denominators of 10 and 100 aloud. Also, have students represent decimals in word form with digits and the decimal place value, such as 4/10 would be 4 tenths. When comparing two decimals, remind students that as in comparing two fractions, the decimals need to refer to the same whole. Allow students to use visual models to compare two decimals. They can shade in a representation of each decimal on a 10 x 10 grid. The 10 x 10 grid is defined as one whole. The decimal must relate to the whole.	

Differentiation Opportunities

Students should be given different manipulatives to help them see the relationship between fractions that have a denominator of 10 and 100. These manipulatives should be made available for students who need extra support.

Tiered guided activities should be created.

<< Previous Year

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