Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Wednesday, October 31, 2012, 10:57AM

Standard/Module: Proficiency in Base 10 5.NBT.4 (Week 1, 6 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) Connects to 5.NBT.1, 5.NBT.2, and 5.NBT.3

5th Grade Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 5th Grade , Number & Operations in Base Ten

5.NBT Understand the place value system.

- 4. Use place value understanding to round decimals to any place.

Enduring Understandings	Essential Questions
1. The set of numbers is infinite and ordered. Whole numbers and decimals are real numbers. Each real number can be associated with a unique point on the number line. 2. Understand that place value can be used to determine how to round a given number. 3. A number line can be used to round whole numbers and decimals by making it easy to see which multiple of 10, 100, etc., or of 0.1, 0.01, etc, a number is closest to. 4. Round whole numbers and decimals by replacing one number with another number that tells about how many or how much.	1. How can place value be used to round whole numbers and decimals? 2. How can a number line be used to round a number?

Critical Content

Estimating

-rounding

-using number line

-whole numbers/decimals

-place value

Skills	Vocabulary
1. Students will use a number line to round whole numbers to tens, hundreds, or thousands. 2. Students will round whole numbers through millions and decimals through thousandths.	Tier 2- rounding, estimating, order, infinite, unique Tier 3- number line, place value

Stage 2: Assessment Evidence

Assessments

Rounding decimal numbers
Formative: Test: Written

Student round given decimal numbers to the given place value.

Stage 3: Learning Plan

Learning Activities	Resources
Students should go beyond simply applying an algorithm or procedure for rounding. The expectation is that students have a deep understanding of place value and number sense and can explain and reason about the answers they get when they round. Students should have numerous experiences using a number line to support their work with rounding. When rounding a decimal to a given place, students may identify the two possible answers, and use their understanding of place value to compare the given number to the possible answers. **Example** Round 14.235 to the nearest tenth. Students recognize that the possible answer must be in tenths thus, it is either 14.2 or 14.3. They then identify that 14.235 is closer to 14.2 (14.20) than to 14.3 (14.30). They can place the numbers on a number line for a visual interpretation that 14.235 is	www.illustrativemathematics.org www.illuminations.nctm.org

closer to 14.2 than 14.3. Students should use **benchmark** numbers to support this work. Benchmarks are convenient numbers for comparing and rounding numbers. 0., 0.5, 1, 1.5 are examples of benchmark numbers.	

Differentiation Opportunities

A common misconception that students have when trying to extend their understanding of whole number place value to decimal place value is that as you move to the left of the decimal point, the number increases in value. Reinforcing the **concept of powers of ten** is essential for addressing this issue.

A second misconception that is directly related to comparing whole numbers is the idea that the longer the number the greater the number. With whole numbers, a 5-digit number is always greater that a 1-, 2-, 3-, or 4-digit number. However, with decimals a number with one decimal place may be greater than a number with two or three decimal places. For example, 0.5 is greater than 0.12, 0.009 or 0.499. One method for comparing decimals it to make all numbers have the same number of digits to the right of the decimal point by adding zeros to the number, such as 0.500, 0.120, 0.009 and 0.499. A second method is to use a place-value chart to place the numerals for comparison.

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