Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Monday, October 15, 2012, 2:10PM

Standard/Module: Proficiency with Measurement 2.MD.5 (Week 3, 34 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) Connects to 2.MD.3, 4 and 6

Standards

NYS: CCLS:Mathematics, NYS: 2nd Grade , Measurement & Data

2.MD Relate addition and subtraction to length.

- 5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

Enduring Understandings	Essential Questions
In this standard, students understand how to apply the concept of length to solve addition and subtraction word problems with numbers within 100. Students must use the same unit in these problems. Students must know what symbols to put into equations that represent problems.	How can I use what I know about addition and subtraction when finding the differences between lengths? How can I write an equation to symbolize the differences in the measures? What drawings can I use or create to help me solve problems where I must find the difference in the lengths?

Critical Content

There is a strong connection between this standard and demonstrating fluency of addition and subtraction facts. Addition facts through 10 + 10 and the related subtraction facts should be included.

Skills	Vocabulary
I can use what I know about addition and subtraction and apply it to solving problems where I need to know the differences in measurements.	Tier 2: addition, lengths, units, drawings, symbol, unknown, represent, problem Tier 3: subtraction, word problems, equations, rulers

Stage 2: Assessment Evidence

Assessments

Measure Around the Room IV
Formative: Performance: Skill Demonstration

Students are assigned 2 items around the classroom to measure. Items should be different lengths. Students will have to choose the most appropriate tool for the item, record the name of the tool(s) used to measure, and the measurement of each item. This allows you to assess whether they can choose the best tool as well as whether they can use the tool to accurately measure, and then compare and find the differences in the lengths of the items by writing and solving an appropriate equation.

Stage 3: Learning Plan

Learning Activities	Resources
Students need experience working with addition and subtraction to solve word problems which include measures of length. It is important that word problems stay within the same unit of measure. Counting on and/or counting back on a number line will help tie this concept to previous knowledge. Some representations students can use include drawings, number lines, rulers, pictures, and/or physical objects.	Rulers Yardsticks Meter sticks Measuring tapes Cash register tapes or paper strips
Example: *In P.E. class Kate jumped 14 inches. Mary jumped 23 inches. How much farther did Mary jump than Kate? Write an equation and then solve the problem.*	Nctm.org Illuminations: Hopping Backward to Solve Problems In this lesson, students determine differences using the number line to compare lengths.
An interactive whiteboard or document camera may be used to help students develop and demonstrate their thinking.	Nctm.org Illuminations: Where Will I Land? In this lesson, the students find differences using the number line, a continuous model for subtraction.
Sample equations include: $20 + 35 = c$ $c - 20 = 35$ $c - 35 = 20$	www.illuminations.nctm.org www.illustrativemathematics.org

$20 + b = 55$ $35 + a = 55$ $55 = a + 35$ $55 = 20 + b$ **Another Example:** *A word problem for 5 – n = 2 could be: Mary is making a dress. She has 5 yards of* *fabric. She uses some of the fabric and has 2 yards left. How many yards did Mary* *use?* There is a strong connection between this standard and demonstrating fluency of addition and subtraction facts. Addition facts through 10 + 10 and the related subtraction facts should be included. Connect the whole-number units on rulers, yardsticks, meter sticks and measuring tapes to number lines showing whole-number units starting at 0. Use these measuring tools to model different representations for whole-number sums and differences less than or equal to 100 using the numbers 0 to 100. Use the meter stick to view units of ten (10 cm) and hundred (100 cm), and to skip count by 5s and 10s. Provide one- and two-step word problems that include different lengths measurement made with the same unit (inches, feet, centimeters, and meters). Students add and subtract within 100 to solve problems for these situations: adding to, taking from, putting together, taking apart, and comparing, and with unknowns in all positions. Students use drawings and write equations with a symbol for the unknown to solve the problems. Have students represent their addition and subtraction within 100 on a number line. They	

can use notebook or grid paper to make their own number lines. First have them mark and label a line on paper with whole-number units that are equally spaced and relevant to the addition or subtraction problem. Then have them show the addition or subtraction using curved lines segments above the number line and between the numbers marked on the number line. For 49 + 5, start at 49 on the line and draw a curve to 50, then continue drawing curves to 54. Drawing the curves or making the "hops" between the numbers will help students focus on a space as the length of a unit and the sum or difference as a length.	

Differentiation Opportunities

There is a strong connection between this standard and demonstrating fluency of addition and subtraction facts. Addition facts through 10 + 10 and the related subtraction facts should be included.

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