Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Monday, October 15, 2012, 2:01PM

Standard/Module: Proficiency with Operations 2.OA.2 (Week 1, 2 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) connects with 2.NBT.1,3,4,9; 2.MD.5,6

Gr. 2 Proficiency Map

Standards

NYS: CCLS:Mathematics, NYS: 2nd Grade , Operations & Algebraic Thinking
2.OA Add and subtract within 20.

- 2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

Enduring Understandings	Essential Questions
1. Addition and Subtraction are related. 2. Strategies that connect addition and subtraction can be used to recall addition and subtraction facts automatically.	1. Why do we want to recall our math facts automatically? 2. How does knowing addition facts help us solve/recall subtraction facts? 3. How does knowing subtraction facts help us solve/recall addition facts?

Critical Content

1. Addition and Subtraction are related.

2. Strategies that connect addition and subtraction.

3. Math facts to 20 at an automatic level

Skills	Vocabulary
1. Know from memory all addition/subtraction facts of two one-digit numbers (sums to 20).	Tier two: related Tier three: equation, addends, sum, difference

Stage 2: Assessment Evidence

Assessments

Number Sprints
Formative: Test: Written

Use the "Sprints" from the NYSED Math modules as a form of both practice and assessment. Build patterns of problems within the Sprint. See "Sprints" document for a description of the process.

Stage 3: Learning Plan

Learning Activities	Resources
Mental strategies help students make sense of number relationships as they are adding and subtracting within 20. The ability to calculate mentally with efficiency is very important for all students. Mental strategies may include the following: -Counting on -Making tens (9 + 7 = 10 + 6) -Decomposing a number leading to a ten (14 – 6 = 14 – 4 – 2 = 10 – 2 = 8) -Fact families (8 + 5 = 13 is the same as 13 - 8 = 5) -Doubles -Doubles plus one (7 + 8 = 7 + 7 + 1) -The use of objects, diagrams, or interactive whiteboards, and various strategies will help students develop fluency.	Math and Movement by Suzy Koontz www.K-5mathteachingresources.com www.illustrativemathematics.org www.illuminations.nctm.org

Differentiation Opportunities

Have students study how numbers are related to the anchor numbers 5 and 10, so they can apply these relationships to their strategies for knowing 5+4 or 8 +3. Students might picture 5+4 on a ten-frame to mentally see 9 as the answer. For remembering 8+7, students might think, since 8 is 2 away from 10, take 2 away from 7 to make 10+5=15. Another example: After multiple experiences with ten-frames, when students add to 9, they mentally SEE 9, but THINK 10 and generalize that 9+ 8 is the same thing as 10 + 7. Then, apply this same thinking to 19+8 is the same thing as 20 + 7, and so on.

Provide activities in which students apply the commutative and associative properties to their mental strategies for sums less or equal to 20 using the numbers 0 to 20.

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