Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Wednesday, October 31, 2012, 4:01PM

Standard/Module: Proficiency with Operations 2.NBT.7 (Week 15, 9 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) connects with 2.NBT.2,5,6,8,9; 2.OA.1-4; 2.MD.5

Gr. 2 Proficiency Map

Standards

NYS: CCLS:Mathematics, NYS: 2nd Grade , Number & Operations in Base Ten

2.NBT Use place value understanding and properties of operations to add and subtract.

- 7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Enduring Understandings

1. Addition and subtraction of multi-digit numbers can be accomplished by using models or drawings.
2. Strategies based on properties of operations and/or the relationship between addition and subtraction, that are applied to adding and subtracting smaller numbers are applied when adding and subtracting larger numbers.
3. Base ten rules apply when adding multi-digit numbers

   a. Ones are added/subtracted from ones, tens from tens and hundred's from hundreds

   b. Regrouping is necessary when reaching a bundle of 10.

   c. Only one digit can be placed in a place value

Essential Questions

1. How do you demonstrate subtracting/adding 2 numbers within 1000 using a model (or drawing)?
2. Why does the larger number need to be "on top" when subtracting?
3. What strategies did you use when adding/subtracting these given numbers? (528, 387)?
4. Why do we use numbers instead of models or drawings in everyday/real life situations?

Critical Content

Add and subtract numbers within 1000

1. Using models or drawings and strategies (link to 2.NBT.5, .6)

a.Composing while adding

b. Decomposing while subtracting

2. Relate models to written method

Skills	Vocabulary
1. Add and subtract within 1000, composing or decomposing tens and hundreds, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction 2. Relate the strategy to a written method.	Tier two: models, strategies Tier three: compose, decompose, (use in lieu of regrouping) place value, properties of operations, addition, subtraction, written method

Stage 2: Assessment Evidence

Assessments

Add and Subtract within 1000
Formative: Test: Written

Students add and subtract within 100 showing all of their work and explaining the problems with at least two methods.

Stage 3: Learning Plan

Learning Activities	Resources
2.NBT.7 builds on the work from 2.NBT.5 by increasing the size of numbers (two 3-digit numbers). Students should have ample experiences to use concrete materials (place value blocks) and pictorial representations to support their work. This standard also references composing and decomposing a ten. This work should include strategies such as making a 10, making a 100, breaking apart a 10, or creating an easier problem. While the standard (traditiona)l algorithm could be used here, students' experiences should extend beyond only working with the algorithm.	www.illustrativemathematics.org www.k-5mathteachingresources.com www.livebinders.com www.illuminations.nctm.org

There is a strong connection between this standard and place value understanding with addition and subtraction of smaller numbers. Students may use concrete models or drawings to support their addition or subtraction of larger numbers. Strategies are similar to those stated in 2.NBT.5, as students extend their learning to include greater place values moving from tens to hundreds to thousands. Interactive whiteboards and document cameras may also be used to model and justify student thinking.

Students should use number lines, base ten blocks, etc. to show, solve and explain reasoning.

Example: 354 + 287 = __

Student 1 uses a number line. "I started at 354 and jumped 200. I landed on 554. I then made 8 jumps of 10 and landed on 634. I then jumped 7 and landed on 641."

Student 2 uses base ten blocks & mat. "I broke all of the numbers up by place using a place value chart. I first added the ones(4+7), then the tens (50+80)and then the hundreds (300 + 200=500) I then combined my answers: 500+130 =630. 630+11=641"

Student 3 uses place value blocks. "I made a pile of 354. I then added 287. That gave me 5 hundreds, 13 tens and 11 ones. I noticed that I could trade some pieces. I had 11 ones, and traded 10 ones for a ten. I then had 14 tens, so I traded 10 tens for a hundred I ended up with 6 hundreds, 4 tens and 11 ones."

Differentiation Opportunities

Use multiple learning strategies as documented by the example above. Students will naturally follow the strategies that cater best to their learning styles if those strategies are offered/taught to them.

When subtracting two-digit numbers, students might start with the digits in the ones place and subtract the smaller digit from the greater digit. Then they move to the tens and the hundreds places and subtract the smaller digits from the greater digits. Assess students' understanding of *a ten* and provide more experiences modeling subtraction with grouped and pre-grouped base-ten materials.

<< Previous Year

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