Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Monday, October 15, 2012, 2:02PM

Standard/Module: Proficiency with Operations 2.OA.1 (Week 1, 22 Weeks)

Stage 1: Desired Results

Standards Focus

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

Gr. 2 Proficiency Map

Standards

NYS: CCLS:Mathematics, NYS: 2nd Grade , Operations & Algebraic Thinking
2.OA Represent and solve problems involving addition and subtraction.

- 1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Enduring Understandings	Essential Questions
1. Word problems can be represented with pictures, models, and mathematical equations. 2. Determining the relationships between the known and unknown parts in a problem can help us solve for the unknown part.	1. How can pictures or models help us solve problems? 2. How are some problems alike? How are they different?

Critical Content

1. Multiple strategies can be used to solve the same problem.

2. Ability to read and recognize chunks of information in problems and translate the information into a mathematical picture (ie. bar diagram), expression or equation.

Skills	Vocabulary
1. Solve one-step word problems involving adding and subtracting within 100. 2. Solve two-step word problems involving adding and subtracting within 100. 3. Add and subtract with unknowns in all positions. 4. Draw a picture or model to illustrate various situations of adding, taking from, putting together, taking apart, and	tier two: comparing tier three: equation, addends, sum, difference, symbol, unknown (Note: key-words are not reliable for determining appropriate operations)

comparing. 5. Use a symbol to represent an unknown number in an equation.	

Stage 2: Assessment Evidence

Assessments

Solving Addition and Subtraction Word Problems
Formative: Test: Written

Take From (Result unknown): David had 63 stickers. He gave 37 to Susan. How many stickers does David have now? 63 – 37 = ___

Add To: David had $37. His grandpa gave him some money for his birthday. Now he has $63. How much money did David's grandpa give him? $37 + __ = $63

Compare: David has 63 stickers. Susan has 37 stickers. How many more stickers does David have than Susan? 63 – 37 = ___

Even though the modeling of the two problems above is different, the equation, 63 - 37 = __ can represent both situations (How many more do I need to make 63?)

Take From (Start Unknown): David had some stickers. He gave 37 to Susan. Now he has 26 stickers. How many stickers did David have before? __ - 37 = 26

It is important to attend to the difficulty level of the problem situations in relation to the position of the unknown.

-Result Unknown, Total Unknown, and Both Addends Unknown problems are the least complex for students.

-The next level of difficulty includes Change Unknown, Addend Unknown, and Difference Unknown

-The most difficult are Start Unknown and versions

of Bigger and Smaller Unknown

(compare problems)

Stage 3: Learning Plan	
Learning Activities	**Resources**
Use bar diagrams to help students visualize the part-part-whole and comparison problems. **Results Unknown:** There are 29 students on the playground. Then 18 more students showed up. How many students are there now? (29=18=__) **Change Unknown:** There are 29 students on the playground. Some more students show up. There are now 47 students. How many students came? (29+__=47) **Start Unknown:** There are some students on the playground. Then 18 more students came. There are now 47 students. How many students were on the playground at the beginning?	www.illustrativemathematics.org www.engageny.org (see grade 2 module)

(__+18=47) Bar Diagrams Models from Pearon's enVision Program	

Differentiation Opportunities

Students can build the numbers with physical models join together or break apart and relating it to the equation.

In the morning there are 25 students in the cafeteria. 18 more students come in. After a few minutes, some

students leave. If there are 14 students still in the cafeteria, how many students left the cafeteria? Write an

equation for your problem. (EXPECT students to use *place value blocks (base 10*), *number line, hundreds*

chart, etc. to show, solve and explain their reasoning.)

Word problems that are connected to students' lives can be used to develop fluency with addition and

subtraction. Table 1 describes the four different addition and subtraction situations and their relationship to

the position of the unknown.

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