

Panda Math 5E Lesson Plan

Teachers: Ms. Flanigan, Ms. Moore, Ms. Ramirez, Ms. Scherer, Ms. Vasquez

Date: September 15th, 2016 (STEM Thursday)

Subject / grade level: 3rd grade math- Subtraction with Regrouping

Materials:

1. Student station guide with anchor chart. (per student)
2. Anchor chart (one per class)
3. Velcro
4. Laminated numbers (for class anchor charts)
5. Laminated ones/tens/hundreds sheets
6. Task cards for Elaboration
7. Dry erase boards and markers for Elaboration
8. Number lines on sentence strips laminated for Explore
9. Base 10 blocks for Explore
10. Station Cards (cardstock) labelled one to five (5)

TEKS:

3.4) Number and operations: The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to: (A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction;

(3.5) Algebraic Reasoning. The student applies mathematical process standards to analyze and create patterns and relationships.

The student is expected to: (A) represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number-lines, and equations.

Vocabulary: subtract, difference, place value, inverse operation, equation, expression, operation

ENGAGE (15 minutes)

Teacher will read the right hand pages (text only without any of the subtraction problems) of Panda Math to students.

Probing/Eliciting Questions:

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1. What do you know about panda bears?
2. What do panda bears eat?
3. How is the relationship between pandas and their mom like human moms and their babies? How are pandas and their mom's different?
4. We are going to learn more about panda bears by using subtraction. Why do we use subtraction? (students will probably say 'take away.' We need to point out that subtraction is also used to compare or show the difference between two measurements.

Transition Statement: Now that we know a little bit about pandas, let's explore how we could use subtraction to learn even more.

EXPLORE (30 minutes)

- **Number Line Explore Station One: Poo's Clues**
 1. Students will read aloud the word problem.
 2. What number sentence would solve this problem?
 3. Teacher will demonstrate using number line to solve subtraction problem.
 4. Students will use large laminated number line to solve problem.
 5. Students will record on their Subtraction Station sheet.
- **Number Line Explore Station Two: Wild Panda, Zoo Panda**
 1. Students will read aloud the word problem.
 2. What number sentence would solve this problem?
 3. Teacher will demonstrate using number line to solve subtraction problem.
 4. Students will use large laminated number line to solve problem.
 5. Students will record on their Subtraction Station sheet.
- **Base Ten Block Explore Station Three: Bamboo**
 - a. Students will read aloud the word problem.
 - b. What number sentence would solve this problem?
 - c. Teacher will demonstrate using base ten blocks to solve subtraction problem.
 - d. Students will use laminated place value chart to solve problem.
 - e. Students will record on their Subtraction Station sheet.
- **Base Ten Block Explore Station Four: Happy Birthday!**

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1. Students will read aloud the word problem.
 2. What number sentence would solve this problem?
 3. Teacher will demonstrate using base ten blocks to solve subtraction problem.
 4. Students will use place value chart to solve problem.
 5. Students will record on their Subtraction Station sheet.
- Write an Equation Station Five: Pounds of Panda
 - Students will read aloud the word problem.
 - What is an equation?
 - How can we write an equation to solve this problem?
 - Teacher will demonstrate using base ten blocks to solve subtraction problem.
 - Students will use place value chart to solve problem.
 - Students will record on their Subtraction Station sheet.

EXPLAIN: Anchor Chart (Allison and Annie)



Probing/Eliciting Questions:

1. T will ask volunteer to read the text of the anchor chart.
2. T will ask: Which problem had a larger value in the ones place on the top?
3. After identifying the problem $57 - 12 = 45$, T will ask for a student volunteer to solve problem using velcro numbers.
4. T will ask: Which problem had a larger value in the ones place on the bottom?
5. After identifying the problem $24 - 7 = 17$, T will ask for a student volunteer to solve problem using velcro numbers.
6. T will ask: Which problem had an equal value in the ones place on the

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bottom and top?

7. After identifying the problem $199-59=140$, T will ask for a student volunteer to solve problem using velcro numbers.
8. Students will write down example on their personal anchor chart.

ELABORATE : Aquarium Animal Subtraction Task Cards (10 minutes)

1. Students will work in groups to write a word problem, write subtraction equation and solve.
2. The groups will be given facts about one of the following aquarium animals: sea otter, sea turtle, stingray, shark, octopus, dolphin.
3. The group will read the facts and then work together on a white board to create a word problem.

Probing/Eliciting Questions:

- What facts do we have about this animal?
- What two facts can we compare (ex: size at birth, size when fully grown)?
- How do we write an equation to solve our problem?
- What strategy can we use to solve the subtraction problem?

EVALUATE

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BEDTIME FOR PANDAS



HUA MEI RESTS ON HER CLIMBING STRUCTURE WHEN SHE IS SIX MONTHS OLD. MEI SHENG LIKES TO SLEEP IN THE SAME SPOT.

Mei Shing sleeps 16 hours a day. How many hours is she awake?

Probing/Eliciting Questions:

1. What information do you need to know to answer this questions (how many hours are in a day)?
2. What strategy did you use to solve this problem?

Closure Statement:

Today's lesson objectives were to: solve subtraction problems using base ten blocks and number lines.

Thank you for allowing us to teach you and learn with you today! :)