Grade 2

Place Value Strategies to Add and Subtract

Our Plan

Explore Fractions Tasks
Analyze Standards
Explore Measurement Fractions Tasks
Explore Possibilities for Lesson Structures
Look at Resources
Plan a Lesson that you will teach

Pulse Check

How are your students doing in math?

The one topic or issue that you need to go back and spend more time with your students is…?

Guess My Number

- It's larger than 50 but smaller than 80.
- The sum of its digits is 11.
- It's an even number.

Guess My Number

- It's odd.
- It's smaller than 30.
- It is the sum when I add 3 of the same number.
- The sum of the digits is 3.

Guess My Number

- It's smaller than 20.
- It is a double.
- The sum of my digits is between 4 and 9.
- There is a 1 in the tens place.

Guess My Number

Write your own number puzzle.
Include 3 clues.
Try to make sure the clues don't narrow the possible answers too soon.

Living it Up in an Elevator

An elevator in a hotel in a large city has 100 floors. Then:
Susan enters.

- Susan goes up 19 floors. Terri enters. Susan exits.
- Terri goes up 18 floors. Ute enters. Terri exits.
- Ute goes down 29 floors. Vinny enters. Ute exits.
- Vinny goes down 19 floors. Wally enters. Vinny exits.
- Wally goes down 9 floors. Wally exits.

- Have fun!

Living it Up in an Elevator

Living it Up in an Elevator

An elevator in a hotel in a large city has 100 floors. Then:

- Susan enters. Susan goes up 19 floors. Terri enters. Susan exits.
- Terri goes up 18 floors. Ursula enters. Terri exits.
- Ute goes down 29 floors. Vinny enters. Ute exits.
- Vinny goes down 19 floors. Wally enters. Vinny exits.
- Wally goes down 9 floors. Wally exists.
- What was the highest floor the elevator could have started on?
- What is the lowest floor the elevator could have started on?

Up 37, Down 57
Net difference of 20

70 +37 = 107
___ + 37 = 100 , 63

23 + 37 = 60, 60 – 57 = 3
21 + 37 = 58, 58 – 57 = 1

Problem Solving in Grade 2

What are the grade level expectations in the Unpacking Document?

Where do your students typically struggle?

2 Step
Number add a number add another number
Number take away a number take away another number
Number add a number then take away
Number take away and then add

Children in the Cafeteria

Part 1: There are 18 children in line. Some children join them in line. If there were 51 children now in line how many people joined them?
Part 2: There were 15 less people in line than those sitting. How many were sitting?
Solve with: Base Ten Blocks, Pictures, Number Line, and Only Numbers

Base Ten Blocks

List the step by step process that students need to do to solve the task in this way.

Pictures

List the step by step process that students need to do to solve the task in this way.

Number Line

List the step by step process that students need to do to solve the task in this way.

18 + 10 + 10 + 10 + 2 + 1
18 + 2 + 10 + 10 + 10 + 1

Comparing Strategies

Counters, Pictures, Number Line, Only Numbers
Which approach is our “ideal” for our students by the end of the year?

Where are most of your students right now?
What data have you collected about this?

At the Zoo

There are 16 children at the zoo. More children arrived late. Now there are 41 children at the zoo. How many children arrived late?

Strategies with only Numbers

Let's look at some of the strategies.

For each write a series of the steps that the student completed.
Based on their work what "math concepts" do they know? How are they applying to those concepts?

Compare Problems

Tony has 8 more toy cars than Steve. Tony has 11 toy cars. How many does Steve have?

Catie has 7 fewer hair clips than Dana. Catie has 18 hair clips. How many does Dana have?

Manny has 5 more balls than Nick. Manny has 11 balls. How many balls do they have total?

Compare Problems

Tony has 8 more toy cars than Steve. Tony has 11 toy cars. How many does Steve have?

Compare Problems

Tony has 8 more toy cars than Steve. Tony has 11 toy cars. How many does Steve have?

Catie has 7 fewer hair clips than Dana. Catie has 18 hair clips. How many does Dana have?

Manny has 5 more balls than Nick. Manny has 11 balls. How many balls do they have total?

What should the order of these be?

-Multi-step with only addition (change unknown)
-Multi-step with both addition and subtraction problems (result unknown)
-Multi-step with only subtraction (change unknown)
-Multi-step with only subtraction (result unknown)
-Multi-step with both addition and subtraction problems (change unknown)

What A Classroom *Could* Look Like

Students ALWAYS have access to manipulatives and concrete objects.
Concrete- physical objects that have 1 to 1 correspondence (cubes, counters, etc.)
Representational- pictures or drawings represent quantities
Abstract- equations (numbers and symbols) represent quantitites

What a Lesson *Could* Look Like

Opening- Number talk
Mini lesson- Pose a task focused on the concept of the day and have students share strategies.
Centers/small group (1)- Students work independently or in small groups on tasks and games while the teacher conducts formative assessment and supports students
Centers/small group (2)- Teacher pulls a group while students work independently or with partners
Closing discussion- 1 or 2 questions to get students talking about what they learned.

Lesson Planning

With people around you plan a lesson
Topic- "solving multi-step subtraction story problems"
Find the standard and plan away.
Your lesson should include-
a number talk, a mini lesson, description of centers activities

Lesson Planning

Before we come back again:
- Teach your lesson
- Collect student work samples
- Jot a quick set of notes about how it went

Bring them back with you

Time with district leaders

Questions?

Drew.polly@uncc.edu
http://elemath.pbworks.com