Session 19

PROBLEMS & INVESTIGATIONS

Adding 10’s & 1’s "Teen" Numbers

Overview
Many first graders are more comfortable with numbers in the 20’s, 30’s, etc., than the teen numbers. We’ve often wished the teen numbers were named “twenty-one, twenty-two,” so their names carried more meaning. It’s clear that we don’t have the power to make those changes in our language, however, so we need to do everything possible to give our students opportunities to develop meaning for these numbers. This lesson is designed to help.

Skills
★ addition of whole numbers
★ writing number sentences
★ exploring addition patterns and strategies

You’ll need
★ Unifix cubes for students to share
   (baskets or other containers with 38 or more cubes per pair)
★ chalkboards, chalk, and erasers
★ 1 set of 50 or Bust! cards

Gather the children together where they can comfortably see your chalkboard or white board, and have them sit in partners (or a threesome if needed.) Distribute Unifix cubes and chalkboards. Ask each child to snap 10 cubes together. They should leave their remaining cubes loose where they can be easily reached. Pose the first problem.

Teacher Today we’re going to take a look at teen numbers. I’d like each of you to set out 14 cubes on your chalkboards.

Give children a minute or two to accomplish this and observe the ways they approach the problem. Some will confidently set out the stack of 10 and 4 more cubes. Others may painstakingly count one by one until they accumulate 14.
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Teacher  It looks like everyone has 14. How did you figure it out?

Anna  I counted. See, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14!

Teacher  You did count out 14. Good job! Did anyone have a different way of figuring it out?

Jordan  I did. I left these snapped together and put on some more—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14!

Jessica  I just put the 10 and 4 more like this: 11, 12, 13, 14!

Be sure to honor all of the ways children have found to set out 14 cubes. You might even want to have students try it each way that has been suggested. Some children will be afraid to trust the tower of 10 without counting it over and over by 1’s. Try two or three more numbers, and then show the children one of your 50 or Bust! cards.

Teacher  Take a look at this card. What do you notice?
Children I see a plus.
It's adding.
It makes 13.
It has Unifix cubes like ours. See—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13!
No, it's like ours—10, 11, 12, 13.

Once again, children's current counting behaviors will determine how they see the cubes on the card. Ask them to set out a 10 and 3 more just the same as pictured on the card. How many do they have in all? Ask them to write a number sentence on their own chalkboards and show the total as well. What do they think the 1 in 13 stands for? How about the 3? Does this activity remind them of anything else they've already done?

Children If you have 3 buttons and 0 buttons, you have 3, only this time it's 10 and 3.
It's sort of the same.
The 10 stayed the same and then we just put in some more.

Teacher Let's try another one.

Have students continue to use their chalkboards and Unifix cubes as you display each card, asking for their thoughts and strategies as you go along. Once interest begins to fade, get them up for a stretch, and then ask them to picture how it would look if they built a given number with a stack of ten and some individual cubes. Write the number on your chalkboard or white board.

Teacher Can you picture how that would look with cubes?

Children We'd have to count out 17. No, I think we can put out 10 and 7 more.

Teacher Can you write a number sentence on your chalkboards to show that?
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Before you leave this activity, show the children the 50 or Bust! cards one at a time. Can they figure out the sum of each without using their cubes? Occasionally, you’ll see a child who appeared to be utterly distracted or one who was totally engaged in counting cubes one by one suddenly come to life and provide quick answers to the “flash cards.” Many of your students will work comfortably with these ideas, while others will need many more opportunities and time to grasp the notion of adding 10’s. There will be many other times throughout the year when youngsters will revisit this concept.

Display the 50 or Bust! cards in your pocket chart and explain that instead of using a spinner or dice to determine how many cubes to take each turn, teams will draw from this collection of cards. Then, invite one student to pick a card for the children's first turn.