Decomposing Numbers 5-10

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Grade Level: Kindergarten
Subject: Math
CT Concept: Decomposition

STANDARDS

CCSS
Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing, numerals, or an equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

LESSON OBJECTIVES / LEARNING TARGETS

Decompose numbers less than or equal to 5 (then 6-10) into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

MATERIALS / CURRICULUM

- Red/Yellow counting dots (If possible)
- Whiteboard/Marker or paper

VOCABULARY

- Break down (means to take apart)
- Decompose (means to take apart)

LESSON DESCRIPTION

Introduction and Prep: *So today we are going to learn about a new word decompose- It's a big word! Say it with me- Let's count the syllables de/com/pose.*

Ok so has anybody heard that word before?

That's right! It's kinda what happens to food when it rots or maybe something that has died, the thing BREAKS DOWN.

Today we are going to learn a different way to think about decompose that also means to break down- but today we are going to break down numbers.

Gather materials for home lesson-

You'll need your red/yellow math counters (show picture)

Decomposing Numbers 5-10

Whiteboard or paper

Marker or coloring tools

Each time we record our thinking, we are going to record it on our paper or white board.

Procedures: *"We are learning so much about numbers and counting- most of these numbers are made up of other, smaller numbers. We are going to* ***decompose*** *numbers today."*

Attention grabber activity with a total number of five that can be broken down into different combinations. I will show five and ask *how many items do we have?… 5. How many are yellow?* Then I will switch out one yellow for a red and ask *how many … 5. This time we have the same amount, 5, but a different combination to make 5.* We will continue with this example for a bit. *"We can take a number, like 5, (or 48, or 99, or 100, or one million!) and we can decompose that number into smaller, more manageable parts."*

Guided Practice: Then we will try the application again, this time with guided practice.

"We will use the red/yellow circle counters or our fingers and our whiteboard with number bonds to show all the combinations of five. Let me show you as we do the first couple together." We will draw a number bond, and some kids will do it that way. Others will show in their own way. *"Now let's decompose this number 5 a different way, with different pairs." Today we are going to do this altogether, and next time I will have you try it on your own.*

At the end we will have made all the combinations to make five. *So five is a relatively small number, but what we really want to be able to do (someday) is to decompose any number into smaller parts, so that we can manage those numbers.*

After this lesson, tomorrow and the rest of the week, we will decompose more challenging numbers, like 6-10, and then eventually 11-20, and will also decompose 100 in 5's and 10's.

Over the mini-lessons each day, we will introduce the ideas of number-bonds, using dots to break apart a total, manipulatives, sentence frames, etc.

ASSESSMENT PLAN

Teacher will be able to check in on procedure and understanding as we practice together. In follow-up lessons, the students will try the same activity again, independently. Then we will do it again with a larger number each day, building to 10, so that they can see the skill transfer.

HOW WAS EQUITY CONSIDERED IN YOUR LESSON?

Using manipulatives and whiteboard provided by school to every student so that the lesson tools are equitable.

Using examples demonstrate the numbers and providing them on my screen as students work so they can have them to access on their own.

Decomposing Numbers 5-10

Accommodation for students not yet writing the numerals 0-5 by having them draw representations of the numbers instead of also recording the numbers. Advanced students can go ahead and turn the numbers into equations.

HOW WAS CT CONSIDERED IN YOUR LESSON?

The concept of decomposition will ideally be revisited frequently in the classroom- kindergarteners will learn the term and also the concept much better with frequent repetition. This application of decomposition will hopefully be one of many to teach the idea of breaking down a complex problem into smaller, more manageable parts.

Typically, kindergarten students learn to identify numerals and count objects to compose the numeral. Along with that, they are asked to learn to decompose a number (up to 10) with a pair of numbers.

This lesson is an important one in kindergarten math, and would be a great place to introduce the concept of taking something larger, and breaking it down into smaller parts, and calling that process “decomposition.”