

Mathematics: The Language of STEM
Bouncy Ball Clean Up
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CONTENT AND TASK DECISIONS

Grade Level(s): Kindergarten

Description of the Task: Using manipulatives, students will understand and demonstrate multiple ways to decompose number 5 with a verbal or written equation.

Indiana Mathematics Content Standards: K.CA.3 Use objects or drawings to decompose numbers less than or equal to 10.

Indiana Mathematics Process Standards:

Mathematics Content Goals: Students will understand how to decompose the number 5 in multiple ways.

Language Objectives: Students will create and explain a verbal or written equation decomposing 5 in multiple ways using manipulatives.

Materials: Paper shelf cutout, skittles, dry erase marker and whiteboard for each student

*Prep- Make sure students have had procedures for using whiteboards before presenting lesson. Print off shelf handout for each student

THE LESSON

Before:

To help review and establish counting, Have students stand in a circle, start with one child and have them begin counting with the number 0, next students says 1, etc. counting up one at a time till you get to the number 5. When a student says 5 he/she must sit down. Continue counting from 0-5 till there is only 1 student left.

Explain to students that they are going to use their whiteboards to make and demonstrate their own equations as they follow a story I will tell them.

“One day I went to the store with my dad, we bought 5 bouncy balls. I took the bouncy balls home and played with them. When I was done playing, dad told me to put them away on the shelf in the garage.” Now you are going to get the chance to put your “bouncy balls” away.

We are going to use skittles to represent our bouncy balls. Use your shelf picture to put the balls on the shelf. How many ways can you separate the balls onto the 2 shelves and make equations to represent them. Write your equation on your whiteboard as you complete each one. Who can tell us what an equation is again? Remind students that our skittles are our math tools today and we do not eat our math tools. Let them know that when they are done working with them today, they will be allowed to eat them.

During:

Circulate, actively listen and notice what students are doing. Let go of instruction and allow them to come to their own conclusions.

Look for understanding of decomposing the number 5 by how they are using the shelves.

Make sure all “balls” are used each time.

Scaffold where needed to encourage understanding through questioning:

Ask: Why did they make the equation the way they did? Can they think of another way to put the balls away that could present another equation? How did you come to that answer? Can you explain why you wrote what you did?

Notice students who are showing varied and alternative ways of understanding through their equations.

After:

Have several students come up and share their thinking about their equations, why they wrote what they did, what their numbers represented. Ask probing questions for the class’s benefit: Why did you put that number here? How did you know which number to put at the end? Could you have thought of another way to write it? Highlight students who came up with expected results and unconventional results to help others see results and their thinking.

ASSESSMENT**Observe:**

Teacher will notice if students are understanding while walking around the room while students are working. Looking for understanding of creating different equations. Did they verbally explain and or write it correctly?

Ask:

What does this equation mean?

If I have 2 balls on the bottom shelf, how many balls are on the top shelf? How do you know? What would the equation look like?

Did anyone think of any other ways you can split up the 5 balls?

Extension: Add to Math Stations for additional practice. Add number cards or dice to draw/roll to decide how many balls to start with and then have them decide how to split them.

