**Cornbread Fundraiser**

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| **Mathematics Goal: Relational Thinking---** Students will develop mathematical generalizations connecting previous understandings of whole number multiplication to multiplication with fractions. They will make connections between strategies and representations. | | | |
| **Problem to Pose:** The 5th graders want to raise money for their overnight camping trip by selling cornbread during the school Chili Cook-Off contest. All the pans of cornbread are square. A pan of cornbread costs $12. The customers can buy any fractional part of a pan of cornbread and pay that fraction of $12. For example,  of a full pan costs  of $12.   1. The first customer, Mrs. Farmer, buys cornbread from a pan that is is  full. She buys  of the remaining cornbread in the pan. 2. What fraction of the whole pan of cornbread does she buy? Use objects and/or a diagram to show how much of the pan of cornbread she buys. 3. What does she pay for the cornbread she bought? Use objects and/or a diagram to show how much she pays. 4. The next customer is the school principal. He buys cornbread from a different pan that is full. He buys of the remaining cornbread in the pan. 5. What fraction of the whole pan of cornbread does he buy? Use a diagram to show how much of the pan of cornbread he buys. 6. What does he pay for the cornbread he bought? Use a diagram to show how much he will pay for his part of the pan. | | | |
| **Anticipated Strategies** | No Access | Sets up Model | Draw model, identify 1/4 and 1/3 of area, finds product |
| Equivalence (1/3 is 4/12, so ¼ of 1/3 is 1/12) | | Relational Thinking (Including taking 1/3 of any whole and dividing by 3, applying to fractions) |
| Equation (1/4 x 1/3 =1/12) | Can solve but cannot name the solution | Subtraction |
| **Sequence of Sharing**  **1**  **2**  **3** | | | |
| 1. **Closure/Exit Ticket:** Mr. Farmer buys cornbread from a pan that is full. He buys of the remaining cornbread in the pan. What fraction of the whole pan of cornbread does he buy? Where do you see multiplication in this problem? Explain your reasoning. | | | |

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| **Questions to pose during discussion** | **Questions to make student thinking visible and probe student thinking:**   * What is her/his fraction of the whole pan? (refer back to the question and the whole in the problem) * Can you draw a picture that represents this problem? * How did you solve the problem? * What did you do first? * What do you already know that helped you figure that out? * What does \_\_ represent? * Why does that strategy work? * Can you think of another problem where this strategy would work? * Does this method always work? Why/How do you know? * Is there only one answer? How do you know? * How does change in one quantity impact the other quantity? What if Mrs. Farmer wanted to buy ½ of the pan of cornbread that is 1/3 full? Why does that happen? * Where is ¼ in your representation? What does ¼ represent? * Where is 1/3 in your representation? * What if you only had $\_, how much could you buy then? How do you know? |
| **Questions to dig deeper into strategies:**   * *How is this strategy similar or different to \_\_\_ strategy?* * Do you notice any patterns? |
| **Engaging students in each other’s thinking:**   * What do you think \_\_\_ did? Why do you think that? * Would someone be willing to add on to what \_\_\_ said? * How could you explain what \_\_ said in a different way? * *How does this relate to what \_\_ said?* |