Lesson Plan #2, B. Frakes

|  |
| --- |
| Standard |
| 2.OA.C.4 Use addition to find the total number of objects arranged in a rectangular arrays with up to 5 rows and 5 columns; write an equation to express the total sum of equal addends. |
| Objective |
| I can create a variety of arrays with matching number sentences.  *\*This standard focuses on up to 5 by 5 arrays; however, students who are exhibiting mastery will be given the opportunity to create arrays above the 5 by 5 requirement of the standard. The foundational knowledge of this standard is applied to multiplication which is a major work of third grade.* |
| Background Knowledge |
| * concept of equal |
| Possible Misconceptions |
| * Students might create unequal groups. * Students might decompose the number rather than create equal groups using the same number. (ex: 12+4+2+2=20) |
| DOK Levels/Activities |
| Level 2 Understand: Use mathematical models/diagrams to represent or explain mathematical concepts  Level 4 Evaluate: apply understanding in a novel way, provide argument or justification for the application (Goal is that students will notice the relationship of commutativity) |
| Materials |
| *One Hundred Hungry Ants*  Posters illustrating arrays featured in book  Graph paper  Construction Paper  Class poster  Number Cards |
| Engage |
| Today, we will be working on arranging groups of numbers to make arrays and write number sentences that match our pictures.  An array is a set of objects put into a pattern. Today our objects will be ants! It is starting to be spring and I am thinking a lot about picnics. So have these ants. Let’s see how they decide to get there quickly. |
| Examine |
| T will read *100 Hungry Ants*. At each description of the marching ants, t will show the grouping. T will ask the following questions:   * What number sentence would match this picture? * What would happen if the ants marched a different direction? * Would there still be 100 ants? How do you know? |
| Explore |
| Let’s pretend that we are having a picnic and there are groups of ants marching right towards us! You and your partner will be given a number and I want you to create as many ways that the ants can come marching at is you can think of.  The number that I have is 30. What are some ways that ants can come marching straight at us?  (5 rows of 6: 6+6+6+6+6=30, 6 rows of 5: 5+5+5+5+5+5=30, 3 rows of 10: 10+10+10=30, etc)  T will show how to cut out graph paper and write the number sentence on the sheet.  T will pass out materials to students. Ss will work with their partners to create arrays and number sentences. (Most student numbers will not go higher than 25.) |
| Explain |
| Okay, mathematicians, it is time for us to look at our work. Ss will share their work for the class.  T will ask the following questions:   * What do you notice? * Where would you see arrays used in real life? * How do patterns help us in math? |
| Extend |
| Ss will share their numbers and their arrays. T will ask students to discuss what we learned today and point to evidence of student learning on the work posters. |
| Evidence of Learning/Assessment |
| The students will each turn in their activity. Students will also verbally explain their thinking in presenting their activities. |