Lesson Plan #2, B. Frakes

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| 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
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| 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)
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| DOK Levels/Activities |
| Level 2 Understand: Use mathematical models/diagrams to represent or explain mathematical conceptsLevel 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 bookGraph paperConstruction PaperClass posterNumber 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?
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| 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?
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| 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. |