Instructor's Name: Cassie Schroer
Subject : Math
Grade: 3
Title of Lesson: Exploring Arrays and Facts

Materials and Resources (including technology): Smartboard presentation

Standard(s) the Lesson will Address:

3.1.2.3: Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division.
3.1.2.4: Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.

Objective:

Students will estimate the number of dots in an array. Then they will find the exact number using calculators
Students will generate multiplication fact families.
Students will use multiplication facts to estimate the number of dots in a large array.
Students will use arrays to solve a multi digit multiplication problem.
Students will explore the inverse relationship between multiplication and division.

Vocabulary:

Content:

Pre-Assessment Plan (if any):** None

Input: **(SCRIPTED)**

1. Rocket Math
2. Math Message
3. "Open your workbooks to page 92"
4. "Use any method to estimate the number of dots in the array"

5. Make a second estimate with the help of square pattern blocks. (Count the number of dots that are covered by one square block.
6. Make a third estimate: tile the arrays with square blocks and use the total number of blacks to estimate the number of dots in the whole array
7. Possible solution strategy: Multiply the number of blocks covering the array by the number of dots covered by one block. Then, add the approximate number of dots left uncovered.
   The try this problem asks children to use a calculator to find the exact number of dots in the array and to explain their strategy. Possible solution strategy: Multiply the number of rows by the number of dots per row.

Setting up Chairs:

1. Slide number: 4
2. "A teacher was setting up the chairs in his classroom for parent night. He wanted them to be in rows with the same number of chairs in each row. Use the clues to find out how many chairs were in the room. Math Masters p. 106
3. Have students start working on their own to figure out the problem.
4. Come back as a class to see what they came up with for answers (Slide 5)
   Student book: P. 93

Guided Practice (Formative Assessment):

Practicing multiplication and division facts with a fact platter

1. Students are with a partner
2. Each group gets a fact platter
3. One partner writes any factor from 1 through 10 in the center of the fact platter
4. The other partner multiplies the factor in the center by each factor on the platter and writes the products on the board around the rim of the platter
5. Students help and check their partner
6. They also write at least one division fact for each multiplication fact on the board
7. Then they erase the board, trade jobs, and keep going until each person has had several turns picking a factor for the center of the platter.

Independent Practice/Summative Assessment: (How will students extend or apply their learning OR demonstrate mastery? If demonstrating mastery, include criteria for evaluation (checklist, rubric, sample, etc).

Math Boxes found on page: 94 of their math journal

Exit slip: Arrays and Areas Worksheet

Accommodations & differentiation for learners: (For all practice lesson assume that you have at least one student in each category: attention/focus issue, language processing issue, sensory issues)

For the two students with IEPs for reading a teacher will help them to read the pages in the workbook for the independent practice time.

Multiple Intelligences Addressed: Address at least ONE of these intelligences: verbal linguistic, musical/rhythmic, visual/spatial, intrapersonal, logical/mathematical, interpersonal, bodily/kinesthetic, naturalistic

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AFTER TEACHING THE LESSON:

Respond with *professional insights that go beyond superficial considerations.*

- As I reflect on the lesson, to what extent were students productively engaged?
    - The students were engaged by answering the different problems on the board and in their workbooks.
- To what extent did the students learn what I intended? Were instructional objectives met?
    - The students learned the objectives.
    - The students were able to use the arrays to do the multiplication problems.
- To what extent did I alter my objectives or instructional plan as I taught the lesson? Why?
    - I added an exit ticket to see if the students understood what was taught that day.
- To what extent did I practice effective classroom management strategies? What issues do I need to address when I teach again?
    - I used count downs for the students to know when we would move on to the next problem.
    - I walked around the room during work time so students could ask individual questions.
- To what extent did I provide closure to the lesson?
    - I ended with the exit ticket
    - The students also used their workbook to practice their basic facts
- If I had the opportunity to teach this lesson again to the same group of students, what would I do differently? Why? How would this affect the outcome of this and future instruction?
    - I would add more examples to the presentation for the students to practice together with the teacher before doing it on their own.