PRACTICE TASK: **Shake, Rattle, and Roll Revisited**

STANDARDS FOR MATHEMATICAL CONTENT

MCC.3.OA.1. Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*
MCC.3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.

STANDARDS FOR MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

Students are taught to write equations as early as Kindergarten. Variables and equations are powerful tools in representing mathematical ideas. In this task students are able to use all of their strategies to figure out products, quotients, and factors. (Teaching Student-Centered Mathematics, John A. Van de Walle and LouAnn H. Lovin, 2006).

ESSENTIAL QUESTIONS

- What are the strategies for learning multiplication?
- What are the strategies for learning division?
- How can we practice multiplication and division facts in a meaningful way that will help us remember them?

MATERIALS

- drawing paper, blocks, any other materials that will help students visualize the problem
- "Shake Rattle and Roll" student game board
- 2 dice

GROUPING

Partners

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

Each player takes turns and rolls the number cubes and covers the product or any two factors of the product. For example, if a player rolls a 2 and an 8, the player could cover 16 (product), 2 (factor), or 8 (factor). If the product or factors has been covered, the player loses a turn. The first player to cover five squares in a row vertically, horizontally or diagonally wins the game. This same concept can be used to practice division facts follow the same concept however, change the numbers on the game board, focus on the divisor, dividend, and quotient.

FORMATIVE ASSESSMENT QUESTIONS

- What multiplication/division strategies are you using?
- What patterns are you noticing?

DIFFERENTIATION

Extension

- Create game boards with larger numbers

Intervention

- Create game boards with smaller numbers and use 1 die

Shake, Rattle and Roll Revisited

Directions: Each player takes turns and rolls the number cubes and covers the product or any two factors of the product. If the product of factors has been covered, the player loses a turn. The first player to cover five squares in a row vertically, horizontally or diagonally wins the game. To practice division facts follow the same concept however, change the numbers on the game board, focus on the divisor, dividend, and quotient.

24	4	9	3	18	2	20	12	4
4	1	20	12	4	3	25	5	8
2	3	6	4	30	36	1	5	18
4	9	1	18	6	5	16	1	9
25	20	4	25	3	2	5	4	8
5	12	2	1	15	12	6	18	5
24	3	24	8	3	5	4	24	2
15	8	6	9	36	3	18	6	24
8	5	16	25	2	30	6	2	3