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| **Lesson Plan – Multiplication introduction up to 5 x 5**  **Developed by:** Katelyn Pettigrew **School:** Island View  **Date:** Nov.26th (created) **Grade level:** 3  **Subject:** Math **Unit:** Multiplication |

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| **Outcomes**  **Grade 3**-SCO: N11: Demonstrate an understanding of multiplication to 5 × 5 by:   * representing and explaining multiplication using equal grouping and arrays * creating and solving problems in context that involve multiplication * modelling multiplication using concrete and visual representations, and recording the process symbolically * relating multiplication to repeated addition * relating multiplication to division.   [C, CN, PS, R]  **I can statements**  I can represent/show multiplication facts using pictures  I can represent/show multiplication facts using manipulatives  I can create and show equal groups and arrays  I can respond to problems with multiplication facts  I can relate multiplication to repeated addition  I can relate multiplication to division  I can explain multiplication using a variety of strategies (pictures, manipulatives, etc.) | **Materials**  Counters  Square tiles  Base ten  Cube-links  Crayons/Markers/pencils  Paint  Paper  Water tins  Construction paper  Graph paper  White boards and white board markers (for each student) |
| **Technology**  Netbooks for small groups/pairs of students  Videos  Smart board |

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| **Connection to Data/Research**  Research shows that when students have a variety of ways to express their learning they have more success.  See CAST.org for additional information. |
| **Prior Learning Connections**  No prior learning from grade 2, however students have been using skip counting since Kindergarten and this is a strategy that can be drawn on to help with this concept. They have also worked on addition and can connect to repeated addition- this is a faster way to get your answer instead of just adding 1 at a time. |
| **Differentiation/Accommodations** |
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| **Special Concerns**  (Classroom management items, medication information, etc). |

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| **Assessment**  **Formative Assessments-**  Pictures, show facts question using manipulatives (1 on 1 with teacher), online Math website quizzes, writing multiplication sentences to go with a problem, Create and show work in a variety of ways( numbers, words, model, pictures) for answering a word problem up to 5 x 5  **Summative Assessment-** Achievement indicator N11 testand a student created product demonstrating their learning of the I can statements. |

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| **Procedure** | | |
| **Before the lesson** | **Collect required materials and manipulatives for the lesson:**  **Lesson 1-** smart board, student white boards, square tiles, yarn  **Lesson 2-** smart board, white paper, markers, crayons, pencil, counters  **Lesson 3-** smart board, white paper/construction paper, paint  **Lesson 4-**smart board, student white boards, manipulatives- square tiles, counters  **Lesson 5-** smart board, manipulatives | |
| **During the lesson** | **Lesson 1** (40-60 minutes)  **Mini lesson:** **(5-10 minutes)** Using smart notebook and teacher created pictures to discuss the connection from addition to multiplication (a quicker way to answer). Show pictures of groups and have students discuss how they would find out how many altogether.  **Investigation: (20-30 minutes)**: Have students move into groups (have circles of yarn on the floor and have students move into the circles and discuss how to add/multiply)  After give students an opportunity to use square tiles to create groups and describe what they did to count their groups.  Play intro to multiplication game-circles and stars by Marilyn Burns (see websites page from smart lesson)  **Journal (5-10)**- Draw an example of something you learned today using words, numbers, or pictures.  **Lesson 2** (40-60 minutes)  **Mini lesson: (5-10 minutes)** Using smart board show equal groups of items (review skip counting), then proceed to show arrays. Ask students to tell how many and tell a partner how they found their answer. Have students discuss what they like/dislike about each. Emphasis the importance of equal groups.  **Investigation**: **(20-30 minutes)** Have students form arrays with their bodies 1 x 9, 3 x 3, 2 x 3, 1 x 3 then have them use counters to create an array, draw pictures of it on their white paper.  **Lesson 3**(40-60 minutes)  **Mini-Lesson**: revisit arrays/groups for multiplication (using videos, websites etc. see smart lesson 2 for a list suggested websites to use for this)  **Investigation:** Students designing an array for all facts from 1, 2, 3, 4, 5s (Assign each group of students 1 set of facts to draw arrays for), and create a song or rhyme about their facts  **Journal- reflection on learning:** What did you like the best about today’s lesson, what did you like least? Show something you learned in class today in words, numbers or pictures.  **Exit slip-** How would you rate your understanding of using an array to show multiplication? 1 -Novice, 2- developing, 3-proficient 4 –exceeds (see <https://docs.google.com/file/d/0B1gANbLU7hbRdVg3UGVDQ09oVHc/edit?usp> for descriptors)  **Lesson 4(**40-60 minutes)  **Mini-Lesson**: Showing how to solve a word problem involving multiplication (5x5). Demonstrate a variety of strategies (numbers, words and pictures)  **Investigation**-Solving a word problem with multiplication, write in numbers, words, and/or pictures  **Journal**- Create and solve (using your own strategy) your own word problem with multiplication  **Exit Slip- Where would you place yourself on learning of Multiplication facts and strategies?** 1 -Novice, 2- developing, 3-proficient 4 –exceeds (see <https://docs.google.com/file/d/0B1gANbLU7hbRdVg3UGVDQ09oVHc/edit?usp> (for  **Lesson 5**(40-60 minutes)  **Mini-Lesson**: Connecting multiplication to division. Have them divide the grade 4s (or other group of students) into equal groups  **Investigation:** provide students with a number of items and then have them put them in a specific number of groups (can be done hands-on or on the smart board /computer)(Teacher circulating taking notes, recording observations for next steps)  **Journal/Reflection of learning:** How are multiplication and division the same, and how are they different? | **UDL Guidelines**  1 Provide multiple means of representation  3.1 activate or supply background knowledge  5.1 use multiple media for communication  5.2 Use multiple tools for construction and composition  7.1 Optimize individual choice and autonomy  8.3 Foster collaboration and community  1.provide multiple means of representation  3.1 activate or supply background knowledge  5.1 use multiple media for communication  5.2 Use multiple tools for construction and composition  7.1 Optimize individual choice and autonomy  8.3 Foster collaboration and community  6.4 Enhance capacity for monitoring progress  1 provide multiple means of representation  3.1 activate or supply background knowledge  5.1 use multiple media for communication  5.2 Use multiple tools for construction and composition  7.1 Optimize individual choice and autonomy  8.3 Foster collaboration and community  6.4 Enhance capacity for monitoring progress  1 provide multiple means of representation  3.1 activate or supply background knowledge  5.1 use multiple media for communication  5.2 Use multiple tools for construction and composition  7.1 Optimize individual choice and autonomy  8.3 Foster collaboration and community |
| **After the lesson** | Following the lesson students will work in groups or on their own to create a product to demonstrate their knowledge of multiplication.  Students will also do the summative assessment for the achievement indicator N11.  Teacher will look over the assessment data to see what the next steps should/will be. | |

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| **Reflections** |