

**Numbers and Operations**  
**Activity 1: Division Drag Racing**

<p><u>Learning Objectives related to Curriculum</u>  Solve division problems. Apply multiplication knowledge to division problems, and solve to find out the remainder  N-68, N-75</p>	<p><u>Number of Students:</u> 2-4</p>
<p><u>Resources/Materials:</u>  Drag Racing Game Board, mini-cars  Division cards  Scrap paper if necessary</p> <p><u>Source Acknowledgment:</u>  Rice, Hardesty, Fannin. <i>Time Out for Math</i></p>	<p><u>Activity Description:</u></p> <ol style="list-style-type: none"> <li>1. Each player draws a card and works the problem. (Get scrap paper for work if needed)</li> <li>2. Move the number of spaces equal to the REMAINDER in the answer. (NOT THE QUOTIENT!)</li> <li>3. Other player(s) checks to make sure the right number of spaces is moved. If he (she) can show it is incorrect, the player in the wrong loses a turn.</li> <li>4. Play continues until one player reaches the finish line.</li> </ol>
<p><u>CELS:</u> Numeracy, Communication, Personal and Social Values and Skills</p>	<p><u>Adaptation/Variation/Extension:</u></p> <ul style="list-style-type: none"> <li>-increase difficulty by doing only mental calculations</li> <li>- players could write their own division questions and give them to the playing partner</li> </ul>
<p><u>Evaluation:</u>  self assessment  anecdotal records  performance assessment - notebook</p>	<p><u>Reflection/Additional Comments:</u>  Although this is a division game, obviously multiplication facts and subtraction skills are reviewed as well!</p>

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**Activity 2: EGG-O**

<p><u>Learning Objectives related to Curriculum:</u> Multiplication skill review, addition of numbers up to 500 N-68, N-39</p>	<p><u>Number of Students:</u> 2-4</p>
<p><u>Resources/Materials:</u> Egg Carton with Numbers Two “buttons” Paper, pencil</p> <p><u>Source Acknowledgment:</u>  Schiro, M. <i>33 Arithmetic Skill Development Games</i></p>	<p><u>Activity Description:</u> 1. Play rotates clockwise. Each player in turn puts the two markers in the egg carton, closes it, shakes it, and then opens the carton to see where the markers landed. 2. Each player’s score is the product of the two numbers that the markers landed on. 3. Players add scores (scrap paper or notebook) to get a cumulative score, until a player reaches 500 and is declared the winner.</p>
<p><u>CELS:</u> Numeracy, Communication, Personal and Social Values and Skills</p>	<p><u>Adaptation/Variation/Extension:</u> -Play a set number of rounds or for a specific time period ( 10 minutes, for example). - The numbers inside the egg carton could be changed to include higher numbers or specific numbers students are having difficulty with.</p>
<p><u>Evaluation:</u> self assessment anecdotal records performance assessment - notebook</p>	<p><u>Reflection/Additional Comments:</u> A good game to enforce automatic recall of multiplication facts, including for some numbers above ten</p>

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**Activity 3: One Hundred Hungry Ants**

<p><u>Learning Objectives related to Curriculum</u>          Recognizing multiplication equations and how to write them (using visual cues and language cues)          N-68</p>	<p><u>Number of Students:</u> One or small group</p>
<p><u>Resources/Materials:</u>          Book: "One Hundred Hungry Ants"          Paper, pencil</p>	<p><u>Activity Description:</u>          1. Read the book          2. Write down, in the form of an equation, the different ways the ants made 100              (For example, <math>1 \times 100 = 100</math>,              <math>2 \times 50 = 100</math>)          3. Have a friend do the same and compare your answers.</p>
<p><u>CELS:</u> Numeracy, Communication</p>	<p><u>Adaptation/Variation/Extension:</u>          -Pick a number other than 100 and write a new story with new equations similar to the story of the ants</p>
<p><u>Evaluation:</u>          self assessment          anecdotal records          performance assessment - notebook          learning contract</p>	<p><u>Reflection/Additional Comments:</u>          This activity could also be done together as a class, with the extension activity used as a class assignment.</p>

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**Activity 4: Number Games with Cards**

<p><u>Learning Objectives related to Curriculum:</u>          Addition facts using three numbers and multiplication using three factors          N-39, N-41, N-72</p>	<p><u>Number of Students:</u> 2 per set of cards</p>
<p><u>Resources/Materials:</u>          Cards</p> <p><u>Source Acknowledgment:</u>          Cornelius M., and Parr, M. What's Your Game</p>	<p><u>Activity Description:</u>          1. Mix the cards and place in front of the players          2. Players take turns drawing cards.  <u>Addition:</u> The first player to have exactly 3 cards that total 16 is the winner. If the first three cards chosen do not add up to 16, the players continue to choose cards until one person gets it.  <u>Multiplication:</u> The first player to have 3 cards with a product of 72 wins.</p>
<p><u>CELS:</u> Numeracy, Communication</p>	<p><u>Adaptation/Variation/Extension:</u>          -have players decide on the number to reach in order to win. (Think about the different possibilities and figure out which work best and why)</p>
<p><u>Evaluation:</u>          self assessment          anecdotal records          performance assessment - notebook          observation checklist (class work)</p>	<p><u>Reflection/Additional Comments:</u>          This game would be easy to set up for the whole class because all it requires is cards. Other similar games could also be "invented" by the class and recorded for future use.</p>

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**Activity 5: Fraction-Ominous**

<p><u>Learning Objectives related to Curriculum:</u> Recognize and match fractions in written form, numeric form, and in picture form N-93</p>	<p><u>Number of Students:</u> 2-4</p>
<p><u>Resources/Materials:</u> Fraction-Omino cards</p> <p><u>Source Acknowledgment:</u>  Schiro, M. 33 Arithmetic Skill Development Games</p>	<p><u>Activity Description:</u> 1. Mix up fraction-ominos face down, have each player pick seven. 2. The object of the game is to match fraction- ominos end to end so that their equivalent ends are adjacent to each other. 3. Fraction-ominos can be played at either end, right side up or upside down. 4. Play rotates clockwise. 5. If there are extra fraction-ominos (2 or 3 players), players may pick up one fraction-omino if they cannot play on their turn. 6. The game ends when all of one player's fraction-ominos have been played or when no one can place a match.</p>
<p><u>CELS:</u> Numeracy, Communication</p>	<p><u>Adaptation/Variation/Extension:</u> -extend knowledge of fractions to draw more fraction pictures as well as use other materials in the classroom to construct fraction pictures. Compare to the fractions on the fraction-ominos</p>
<p><u>Evaluation:</u> self assessment anecdotal records performance assessment - notebook</p>	<p><u>Reflection/Additional Comments:</u> This game would be good to use as a review of fraction knowledge, particularly for students who have difficulty making the visual connections between the words and the image. It would be best if there were also materials available (blocks, rods) so there was also practice in constructing the fractions.</p>

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**Activity 6: 97 Prime**

<p><u>Learning Objectives related to Curriculum:</u> Picking out prime numbers (recognizing that some numbers have factors in addition to one and the number itself) N-73</p>	<p><u>Number of Students:</u> 2-4</p>
<p><u>Resources/Materials:</u> Dice 97 Prime Game Board Markers for players to move</p> <p><u>Source Acknowledgment:</u>  Rice, Hardesty, Fannin. <i>Time Out for Math</i></p>	<p><u>Activity Description</u> 1. Start on zero. Take turns rolling the dice and using any single number rolled or any combination of numbers on the dice ( addition or subtraction) to try to reach another prime number. Example: Marker is on 5, Player rolls a 6 and a 2 Best choice: Move (6+2=8) to 13 Could also: Move 6 to 11, Move 2 to 7 Not possible (6-2=4) to 9 2. If no move can be made to a prime number, player stays on the original spot. 3. First player to reach 97 wins *****Moves must be made only to PRIMES. If incorrect move is spotted, player making the move must go back "one prime".</p>
<p><u>CELS:</u> Numeracy, Communication Social Skills ( working together to check for the correct answer) Critical and Creative Thinking (deciding on the best move)</p>	<p><u>Adaptation/Variation/Extension:</u> -to make it easier, the prime numbers could be marked on the game board</p>
<p><u>Evaluation:</u> self assessment anecdotal records performance assssment - notebook</p>	<p><u>Reflection/Additional Comments:</u> This game is great because it requires a lot of thinking and decision making in addition to math skills on the part of all players at all times. (checking for mistakes)</p>