

# Combo

## Focus:

- Logical Reasoning, Probability, Operations

## Prerequisites:

- Basic operations (+ -  $\times$   $\div$  )

## Materials:

- Partner, three dice, markers, Combo game board (on the following page)

## Objective:

- Be the first player to connect four markers (horizontally, vertically, or diagonally)

## How To Play:

1. Take turns. A player rolls 3 dice. The player then uses any combination of addition, subtraction, multiplication or division to find a value. For example, the player rolls a 2, 3, and 5. They could add 2 + 3 and then multiply by 5 to get 25 or subtract 3 from 5 to get 2 and add 2 to that to get 4.
2. All three dice must be used exactly once each turn.
3. The player marks their final value on the game board.
4. The second player takes their turn and follows steps 1-3.
5. If a player's roll does not have any available combination on the board, they lose their turn.
6. Play continues until one player connects four marks horizontally, vertically or diagonally.

## Variations:

- Play can be modified to accommodate three players. Use three kinds of markers and instead of connecting four to win, a connection of three wins.

## Combo Game Board

|            |            |            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>1</b>   | <b>2</b>   | <b>3</b>   | <b>4</b>   | <b>5</b>   | <b>6</b>   | <b>7</b>   | <b>8</b>   |
| <b>16</b>  | <b>15</b>  | <b>14</b>  | <b>13</b>  | <b>12</b>  | <b>11</b>  | <b>10</b>  | <b>9</b>   |
| <b>17</b>  | <b>18</b>  | <b>19</b>  | <b>20</b>  | <b>21</b>  | <b>22</b>  | <b>23</b>  | <b>24</b>  |
| <b>32</b>  | <b>31</b>  | <b>30</b>  | <b>29</b>  | <b>28</b>  | <b>27</b>  | <b>26</b>  | <b>25</b>  |
| <b>33</b>  | <b>34</b>  | <b>35</b>  | <b>36</b>  | <b>37</b>  | <b>38</b>  | <b>39</b>  | <b>40</b>  |
| <b>55</b>  | <b>54</b>  | <b>50</b>  | <b>48</b>  | <b>45</b>  | <b>44</b>  | <b>42</b>  | <b>41</b>  |
| <b>60</b>  | <b>64</b>  | <b>66</b>  | <b>72</b>  | <b>75</b>  | <b>80</b>  | <b>90</b>  | <b>96</b>  |
| <b>216</b> | <b>180</b> | <b>150</b> | <b>144</b> | <b>125</b> | <b>120</b> | <b>108</b> | <b>100</b> |



## Combo Jr.

### Focus:

- Logical Reasoning, Number Sense, Operations

### Prerequisites:

- Basic addition and subtraction

### Materials:

- Partner, three dice, markers, Combo Jr. game board (on the following page)

### Objective:

- The first player to gain 15 points wins.

### How To Play:

7. Take turns. Player A rolls 3 dice. Player A then uses any combination of addition or subtraction to find a total value. For example, the player may add all three dice values, add two and subtract one or subtract two values from the third.
8. All three dice must be used once and only once.
9. Player A marks their value on the game board and scores one point for the round.
10. Player B takes their turn and repeats steps 1-3.
11. If player B places their marker on a number adjacent to one of player one's markers, then player two scores an additional point.
12. Play continues until one player reaches 15 points.

### Follow Up:

- Have the student add and subtract aloud, using markers to model their addition and subtraction. Use positive reinforcement and excitement as they think in new ways. Assist them in seeing new combinations by finding a final value that could be useful on the board and saying "looks like a \_\_\_ could really help you. Is there any way for you to create a \_\_\_?"
- To mix things up, a fourth die may be added. Remember, however, the game board only contains values 0-18 so some totals might not work. For students working with other values (integers, products, etc....) the game board can easily be adapted.
- Play can be adjusted to follow "Connect 4," i.e. to win you must get four markers in a row. No points are scored in this version.



## Combo Jr. Game Board

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  |
| 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 0  | 1  | 2  | 3  | 4  |
| 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 0  | 1  |
| 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 0  | 1  | 2  | 3  | 4  | 5  | 6  |

