

# Tic-Tac-Toe Array

**Building Fluency:** products of whole numbers and their relationship to rectangular arrays

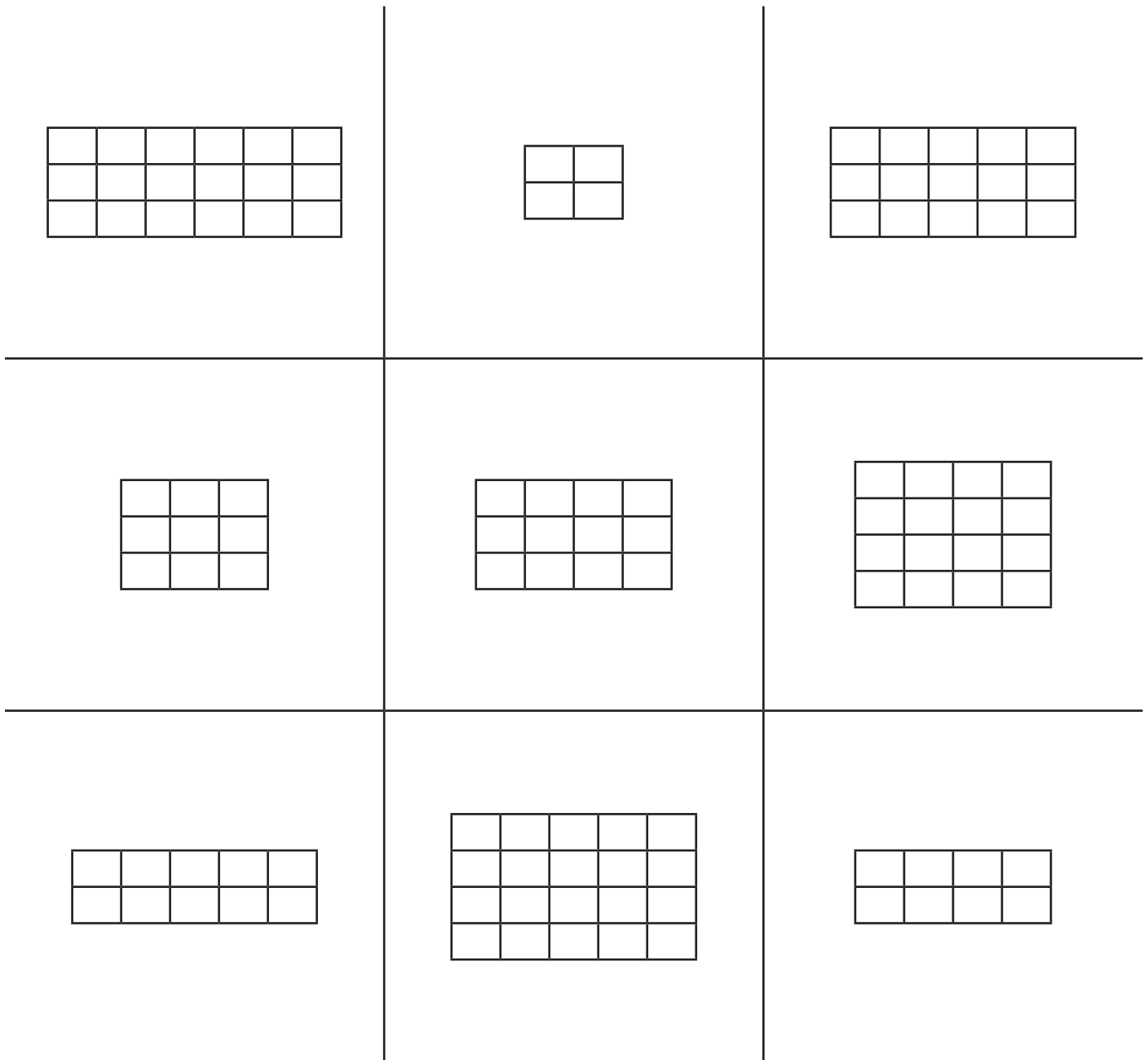
**Materials:** gameboard, pile of centimeter cubes (at least 20), 5 game markers - different color for each player, a spinner (your choice)

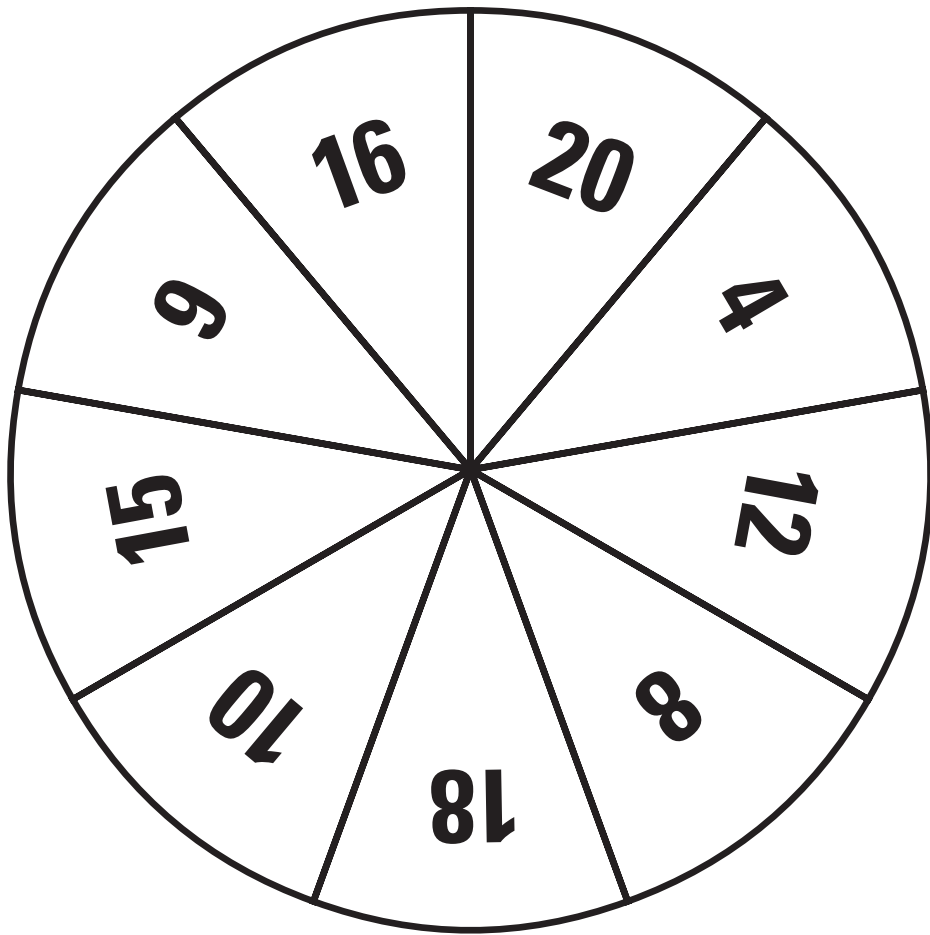
**Number of Players:** 2

**Directions:**

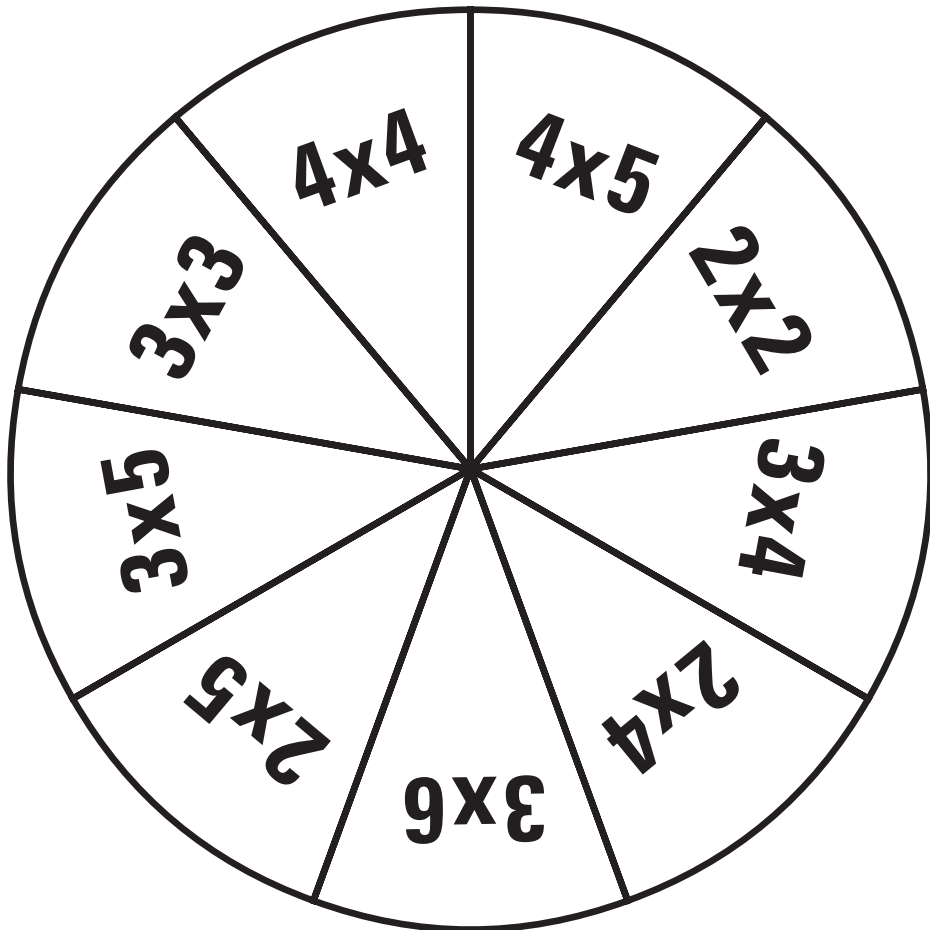
1. Players take turns spinning the spinner. The player takes the number of cubes shown on the spinner.
2. The player uses the cubes to build one of the rectangles shown on the gameboard & says the equation used to build the rectangle.
3. The player puts the cubes back in the pile and places a marker on the rectangle.
4. The winner is the first player to have three markers in a row.

**Variation/Extension:** Player may win by being the first to cover four adjacent rectangles to form a box. Use the second spinner. Player will multiply and use those dimensions to make the rectangle.





Variation #2  
Spinner





## Sakes Alive, Go For Fives!!



**Building Fluency:** multiply within 100

**Materials:** gameboard, pair of dice, 20 game markers - different color for each player

**Number of Players:** 2 or 3

**Directions:**

1. Players take turns rolling dice. Player covers the product or the two factors with game markers.
2. If the player is not able to cover a number, the turn is lost.
3. The first player to cover five squares in a row, vertically, horizontally, or diagonally wins the game.

**Variation/Extension:** Play a “doubles” variation. When a player cannot play the factors or the product, they may play a double of the product. Example: Player rolls 2 and 5. 10 is not available. Player calls “double” and covers the 20.

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

# Raging Rectangles

**Building Fluency:** products of whole numbers and their relationship to rectangular arrays; relate area to operations of multiplication

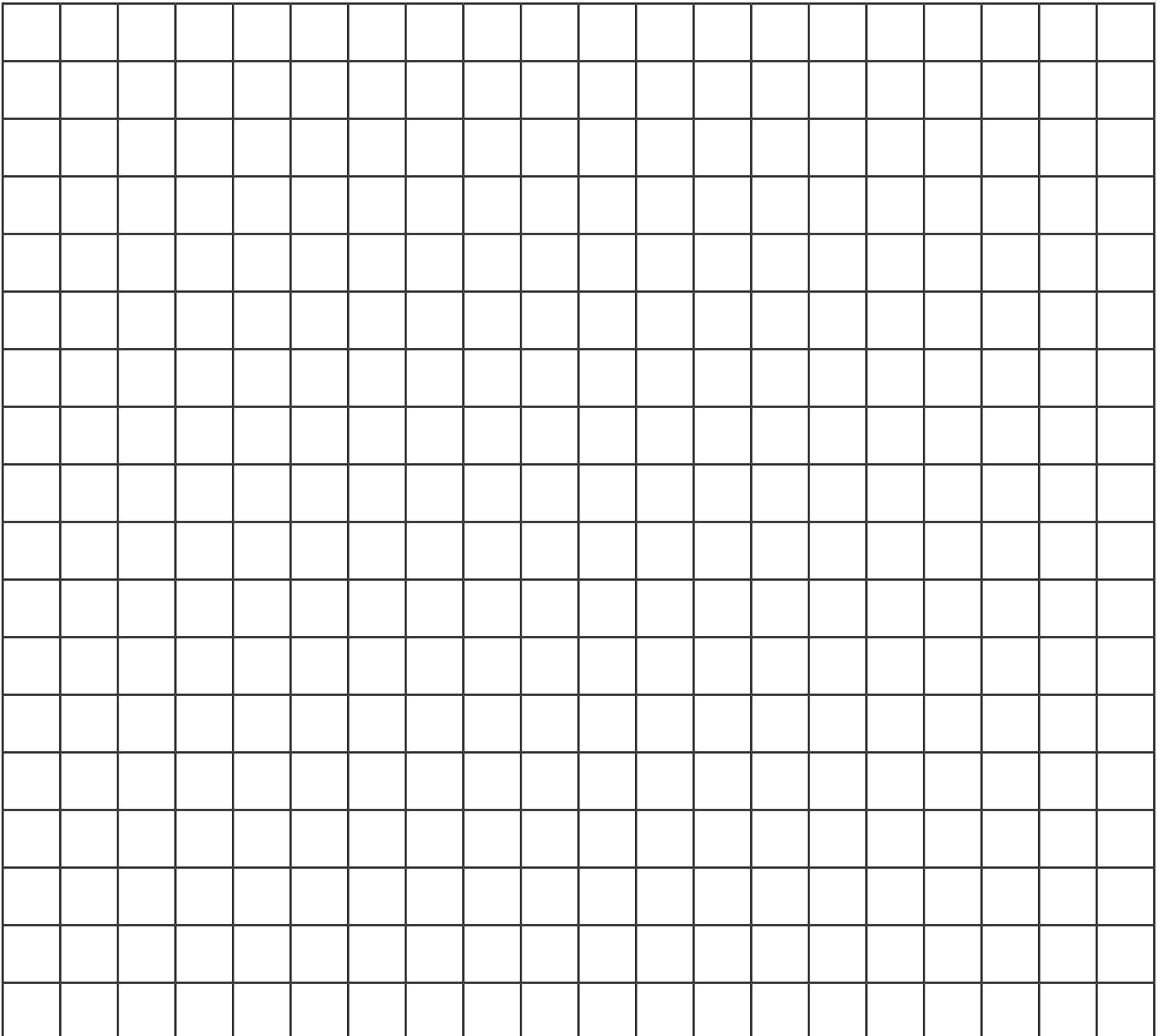
**Materials:** gameboard, pair of dice, 1 crayon - different color per player

**Number of Players:** 2

**Directions:**

1. Each player takes a turn rolling the dice to get two factors.
2. The player outlines and colors a rectangle on the gameboard to match the pair of factors. Example: a roll of 6 and 3 is colored as a 6 x 3 rectangle or a 3 x 6 rectangle.
3. The player writes the equation (area) inside the rectangle.
4. A player loses a turn when the rectangle cannot be drawn on the gameboard.
5. The winner is the player with the most area colored.

**Variation/Extension:** Students can add the two numbers on the dice for the first factor and then use 2, 5 or 10 as the second factor.



# Multiple Madness

**Building Fluency:** multiply within 100

**Materials:** gameboard, 8 game markers – different color for each player, 2 paperclips

**Number of Players:** 2

**Directions:**

1. The first player places the two paperclips on any factors at the bottom of the page. Both paperclips may be on the same factor.
2. The player covers the product of the two factors with a game marker.
3. The second player moves one of the paperclips then places a game marker on the new product.
4. Players alternate moving a paperclip and marking a product.
5. The winner is the first to cover four products in a row.

**Variation/Extension:** Multiple Madness II is a variation

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>8</b>	<b>9</b>	<b>10</b>	<b>12</b>	<b>15</b>	<b>16</b>
<b>20</b>	<b>25</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>5</b>	<b>6</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>12</b>
<b>15</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>1</b>	<b>2</b>
<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>10</b>

**FACTORS:** 1 2 3 4 5

## Multiple Madness II

**Building Fluency:** products of whole numbers

**Materials:** gameboard, 8 game markers – different color for each player, 2 paperclips

**Number of Players:** 2

**Directions:**

1. The first player places the two paperclips on any factors at the bottom of the page. Both paperclips may be on the same factor.
2. The player covers the product of the two factors with a game marker.
3. The second player moves one of the paperclips and places a game marker on the new product.
4. Players alternate moving a paperclip and marking a product.
5. The winner is the first to cover four products in a row.

**Variation/Extension:** Multiple Madness is a variation

<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>9</b>	<b>10</b>	<b>12</b>	<b>14</b>
<b>15</b>	<b>16</b>	<b>18</b>	<b>20</b>	<b>21</b>	<b>24</b>
<b>25</b>	<b>27</b>	<b>28</b>	<b>30</b>	<b>32</b>	<b>35</b>
<b>36</b>	<b>40</b>	<b>42</b>	<b>45</b>	<b>48</b>	<b>49</b>
<b>54</b>	<b>56</b>	<b>63</b>	<b>64</b>	<b>72</b>	<b>81</b>

**FACTORS:** 1 2 3 4 5 6 7 8 9

# No Leftovers Wanted!

**Building Fluency:** products of whole numbers and their relationship to rectangular arrays

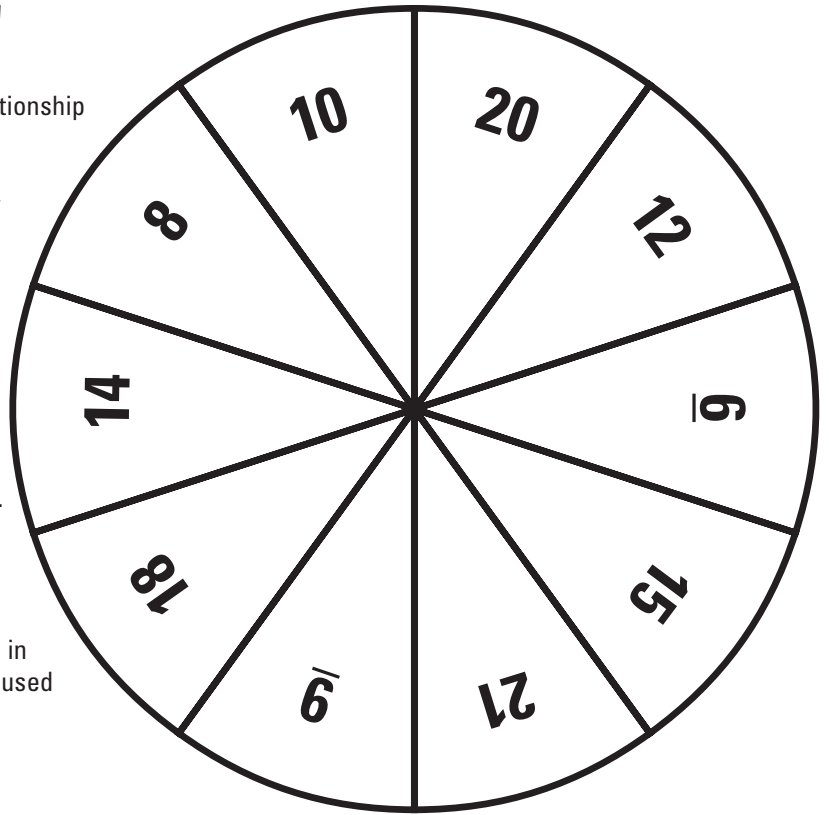
**Materials:** gameboard, a die, spinner (pencil and paperclip), 21 color tiles, cubes, or counters

**Number of Players:** 2

**Directions:**

1. Player spins the spinner and takes that number of counters.
2. Player rolls the die to see how many equal rows will be in the array. Then the player builds the array.
3. The number of counters in one row is the player's score. The player's score is doubled if there are no leftovers.
4. Players record their score after each turn.
5. The winner has the highest score after six rounds.

**Variation/Extension:** Use the area or number of blocks used in the array to be the score. Use the area or number of blocks used in the array minus the leftovers to be the score.



## PLAYER 1

Turn	# of Counters	# of Equal Rows	# in Each Row	# of Leftovers	Score
1					
2					
3					
4					
5					
6					

## PLAYER 2

Turn	# of Counters	# of Equal Rows	# in Each Row	# of Leftovers	Score
1					
2					
3					
4					
5					
6					

# Whose Winning Products?

**Building Fluency:** multiply within 100

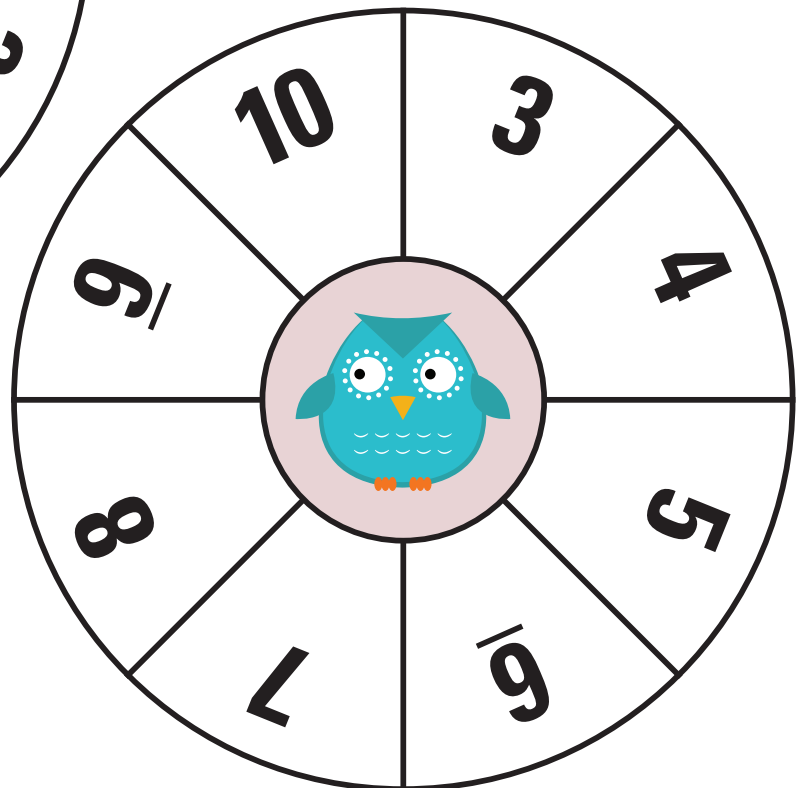
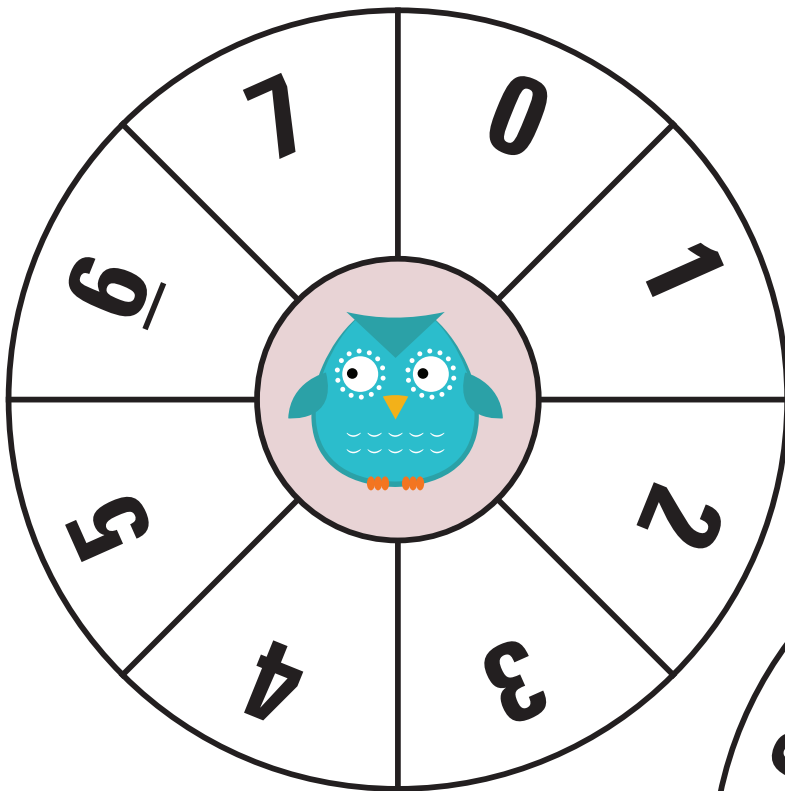
**Materials:** gameboard for each player, spinners (pencil and paper clip), 25 game markers for each player

**Number of Players:** any number

**Directions:**

1. Each player completes their gameboard with possible products.
2. Player 1 spins the spinners to find two factors.
3. Find the product and place game marker on the square on the gameboard.
4. In turn, each player spins and multiplies.
5. All players cover the product if it appears on their gameboards.
6. First player to cover 5 in any direction wins.

**Variation/Extension:** This could be played with a larger group using a document camera. Place the spinner under the document camera and let players take turns spinning and multiplying.









# Money Wheel



**Building Fluency:** multiply one-digit whole numbers by multiples of 10

**Materials:** spinners (pencil and paperclip), paper, money (optional)

**Number of Players:** 2-4

**Directions:**

1. Players take turns spinning the “How Many?” spinner and the “How Much?” spinner.
2. Record the product and describe the strategy to the other players.  
Example: I spun 8 and 50 cents. I know that 8 times 5 is 40 so 8 times 50 is 400 cents.  
(Student could use play money to represent the amount spun.)
3. After each player has had 5 turns, total the value. The player with the most money wins.

**Variation/Extension:** Change the amounts on the spinners; spinner could be changed to have 80 cents and 90 cents instead of 10 cents and 20 cents.

## PLAYER 1

	How Many?	How Much?	Amount of Money
1			
2			
3			
4			
5			
<b>TOTAL</b>			_____

## PLAYER 2

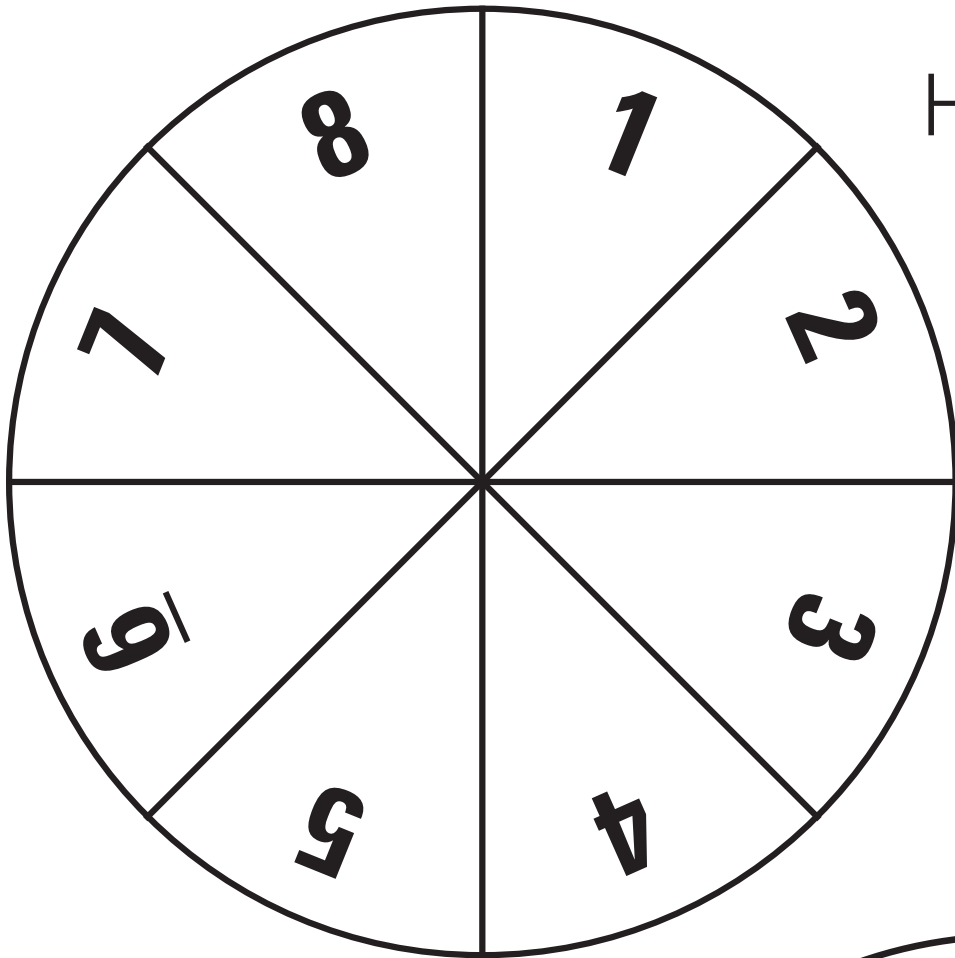
	How Many?	How Much?	Amount of Money
1			
2			
3			
4			
5			
<b>TOTAL</b>			_____

## PLAYER 3

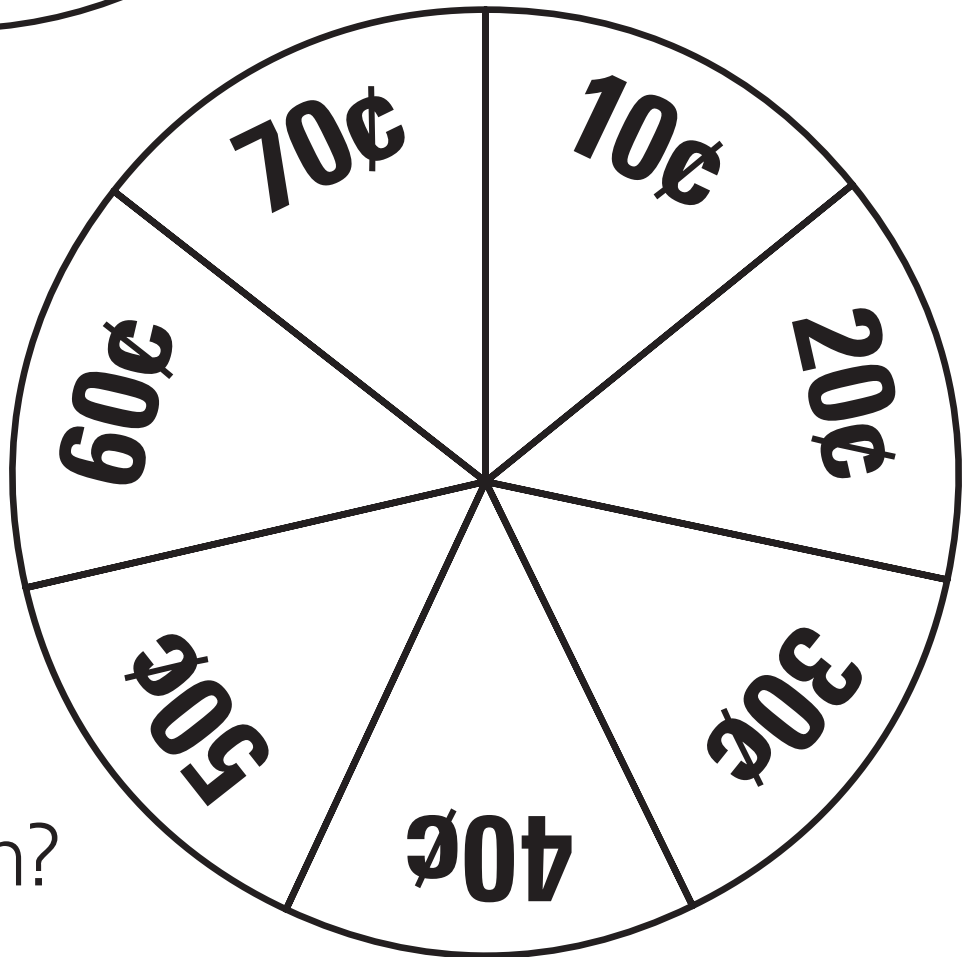
	How Many?	How Much?	Amount of Money
1			
2			
3			
4			
5			
<b>TOTAL</b>			_____

## PLAYER 4

	How Many?	How Much?	Amount of Money
1			
2			
3			
4			
5			
<b>TOTAL</b>			_____



How Many?



How Much?



