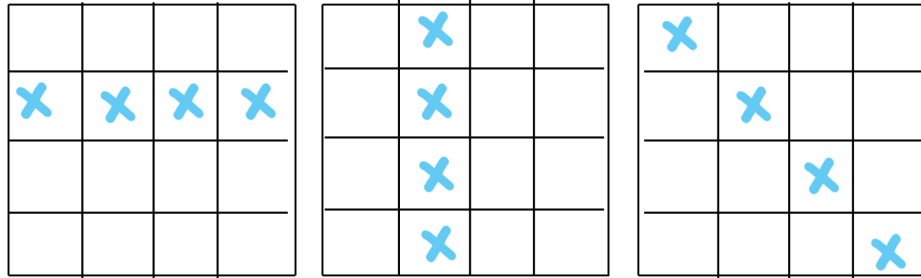# Products 4-in-a-Row (Multiples of Ten)

Object of the Game

Be the first player to claim four spaces in a row, column, or on the diagonal to win the game.

Three ways to win!

Materials

- Products 4-in-a-Row (Multiples of Ten) Record Sheet
  Print the record sheet or make your own.

- 2 game markers to place on the factors (numbers you'll multiply)
  Paper clips work well because they don't fully cover the numbers.

- 36 additional game markers to place on the products (the result of multiplying two or more numbers) *These can be dried beans, buttons, coins, paper scraps, building blocks, etc. Each player needs 18 game markers that are different in color or type from their partner's. Using objects makes the record sheet reusable. You could instead choose to mark the record sheet with Xs and Os.*

- pencil or pen

- paper to record equations if not using the printed record sheet
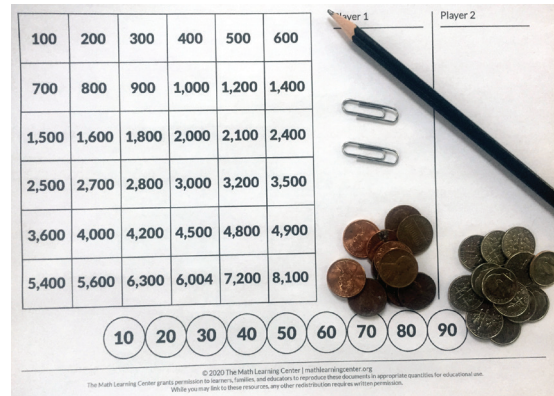
Skills

This game helps us practice:

- Multiplication facts

- Multiplying multiples of 10

- Connections between multiplication and division

How to Play

1. Print or make a record sheet to share with your partner. *If making a record sheet, it's important to include the products shown on the printable version, but not important that they are in the same order.*

2. Decide who will go first.

3. Player 1 puts one of the factor markers on any number, 10–90. (These are the circled numbers in the row at the bottom of the record sheet.) Player 2 puts the other factor marker on a different number.

4. Player 2 multiplies the two factors, claims the product on the grid with a product marker, and writes a multiplication equation to match on the record sheet or a separate sheet of paper.

Aunt Elise: I choose 30.

Danielle: I choose 70. Let's see, 30 × 70 = 2,100, so I'll put my penny on 2,100.

5. Player 1 chooses either of the factor markers to move to a new circled number below the grid, then multiplies the two factors to get a new product. Player 1 claims the new product and writes the matching equation.

100	200	300	400	500	600
700	800	900	1,000	1,200	1,400
1,500	1,600	1,800	2,000		2,400
2,500	2,700		3,000	3,200	3,500
3,600	4,000	4,200	4,500	4,800	4,900
5,400	5,600	6,300	6,004	7,200	8,100

Player 1

$40 \times 70 = 2800$

Player 2

$30 \times 70 = 2,100$

(10) (20) (30) (40) (50) (60) (70) (80) (90)

Aunt Elise: I'll move the marker from the 30 to the 40. Since 40 × 70 is 2,800, I get to put my dime on 2,800.

6. Players keep taking turns until one claims four spaces in a row.

    »   4-in-a-row can be vertical, horizontal, or diagonal.

    »   Players may move only one factor marker at a time.

    »   Both factor markers can be on the same factor.

    »   If a player chooses a factor that makes a product that is already claimed, the player loses that turn.

    »   Use what you know about division to help you choose where to move the paper clip on your turn.

100	200	300	400	500	600
700	800	900	1,000	1,200	1,400
1,500	1,600	1,800	2,000		2,400
2,500	2,700		3,000		3,500
3,600	4,000	4,200	4,500	4,800	4,900
5,400	5,600	6,300	6,004	7,200	8,100

Player 1
40 x 70 = 2800

Player 2
30 x 70 = 2,100
40 x 80 = 3,200

(10) (20) (30) (40) (50) (60) (70) (80) (90)

Danielle: I'm pennies, and the paper clips were on 40 and 70. I'd like to get two in a row.
I notice that 3,200 is just below 2,100. I know that 3,200 divided by 40 is 80, so I'll move the paper clip from 70 to 80 to claim 3,200.

Aunt Elise: In my next move, I need to start thinking about blocking Danielle.
I want to move one of the factor markers in order to help me get either 1,200 or 4,800.
I could either move the 40 marker to 60 to get 4,800 or I could move the 80 marker to 30 to get 1,200.
I wonder which would be the best move for me?

7. Have fun!

Tips for Families

- Discuss different moves you could make before choosing one.

- Talk about how basic facts, like 4 × 7, are related to multiplying multiples of 10, such as 40 × 70.

- Ask children to look for moves that will help them claim a product in the same row as numbers they've already claimed.

  » The paper clips are on 40 and 60. What multiples of 60 could you claim? What about multiples of 40?

  » I want to claim 3,600. Is there any way I can move one paper clip to do that? Which one? What multiplication or division problem shows I can claim that space?

Change It Up

Making even small changes to a game can invite new ways of thinking about the math. Try making one of the changes below. How did it change your strategy for winning the game?

- Play for five in a row instead of four in a row.

- Play for claiming four corners of a rectangle of any size on the board instead of four in a row.

PRODUCTS 4-IN-A-ROW (MULTIPLES OF TEN)

						Player 1	Player 2
100	200	300	400	500	600		
700	800	900	1,000	1,200	1,400		
1,500	1,600	1,800	2,000	2,100	2,400		
2,500	2,700	2,800	3,000	3,200	3,500		
3,600	4,000	4,200	4,500	4,800	4,900		
5,400	5,600	6,300	6,400	7,200	8,100		

(10) (20) (30) (40) (50) (60) (70) (80) (90)