

# Use Partial Products to Multiply

**Materials:** Multiplication Equations Board (2 x 1-digit or 3 x 1-digit)

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1. Work with a partner. Choose a line of four problems from the board (vertically, horizontally or diagonally) that you will both solve.
2. Solve each problem by multiplying each digit of one factor by each of the digits in the other factor, taking into account the place value of each digit.
3. Add the partial products to find the total product.

**Examples:**

$$\begin{array}{r} 39 \\ \times 4 \\ \hline 120 \\ 36 \\ \hline 156 \end{array} \quad \begin{array}{l} (4 \times 30) \\ (4 \times 9) \end{array}$$

$$\begin{array}{r} 746 \\ \times 5 \\ \hline 3500 \\ 200 \\ 30 \\ \hline 3,730 \end{array} \quad \begin{array}{l} (5 \times 700) \\ (5 \times 40) \\ (5 \times 6) \end{array}$$

4. Check your work with your partner. Then repeat with another line of problems.

$28 \times 4$

$64 \times 5$

$27 \times 6$

$82 \times 7$

$8 \times 23$

$9 \times 34$

$3 \times 42$

$6 \times 36$

$15 \times 9$

$18 \times 4$

$22 \times 4$

$31 \times 4$

$7 \times 33$

$4 \times 82$

$3 \times 44$

$6 \times 32$

$212 \times 4$	$126 \times 5$	$232 \times 6$	$148 \times 7$
$8 \times 213$	$9 \times 324$	$3 \times 344$	$6 \times 235$
$137 \times 9$	$215 \times 5$	$262 \times 4$	$131 \times 7$
$7 \times 124$	$8 \times 225$	$4 \times 145$	$2 \times 623$

# Use Partial Products to Multiply

**Materials:** Multiplication Equations Board (4 x 1-digit)

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1. Work with a partner. Choose a line of four problems from the board (vertically, horizontally or diagonally) that you will both solve.
2. Solve each problem by multiplying each digit of one factor by each of the digits in the other factor, taking into account the place value of each digit.
3. Add the partial products to find the total product.

**Example:**

$$\begin{array}{r}
 2736 \\
 \times \quad 5 \\
 \hline
 10000 \quad (5 \times 2000) \\
 3500 \quad (5 \times 700) \\
 150 \quad (5 \times 30) \\
 \underline{30} \quad (5 \times 6) \\
 \hline
 \mathbf{13,680}
 \end{array}$$

4. Check your work with your partner. Then repeat with another line of problems.

$2,281 \times 4$	$1,642 \times 5$	$2,273 \times 6$	$1,824 \times 7$
$8 \times 3,235$	$9 \times 1,346$	$3 \times 4,427$	$6 \times 1,368$
$1,349 \times 9$	$1,581 \times 5$	$6,222 \times 4$	$5,313 \times 4$
$7 \times 2,434$	$8 \times 2,345$	$4 \times 4,536$	$2 \times 2,367$

# Use Partial Products to Multiply

**Materials:** Multiplication Equations Board (2 x 2-digit)

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1. Work with a partner. Choose a line of four problems from the board (vertically, horizontally or diagonally) that you will both solve.
2. Solve each problem by multiplying each digit of one factor by each of the digits in the other factor, taking into account the place value of each digit.
3. Add the partial products to find the total product.

**Example:**

$$\begin{array}{r} 25 \\ \times 17 \\ \hline 140 \quad (7 \times 20) \\ 200 \quad (10 \times 20) \\ 35 \quad (7 \times 5) \\ \hline 50 \quad (10 \times 5) \\ \hline 425 \end{array}$$

4. Check your work with your partner. Then repeat with another line of problems.

$44 \times 22$	$51 \times 16$	$61 \times 22$	$71 \times 18$
$18 \times 23$	$19 \times 34$	$31 \times 44$	$61 \times 36$
$92 \times 12$	$52 \times 15$	$46 \times 62$	$47 \times 31$
$17 \times 24$	$18 \times 25$	$42 \times 45$	$20 \times 23$