

# Learning Multiplication Using Arrays

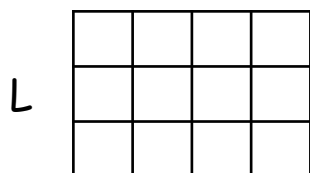
After learning all about using tiles to find area, we will now be learning how area teaches us about multiplication! We will see, firsthand, how important multiplication is in our lives as everyday mathematicians.

## Vocabulary

<b>Multiplication</b>	The process of repeatedly adding a quantity to itself a given number of times.
<b>Factors</b>	Any number multiplied with another number to find a product.
<b>Product</b>	The solution of a multiplication equation.
<b>Array</b>	An area model used for multiplication made up of <b>rows</b> (horizontal lines) and <b>columns</b> (vertical lines)

## How do I use Arrays to Multiply?

What are the dimensions of this quadrilateral? What is the area?



W

The dimensions are \_\_\_\_\_

The area is \_\_\_\_\_

The dimensions of a quadrilateral are written as a multiplication equation that describes its area.

With that in mind, try to solve this multiplication problem.

$$3 \times 4 = \underline{\quad}$$

## Turning a multiplication equation into an array.

In third grade, you will be introduced to multiplication equations that look like the one below. You will need to learn how to solve equations like these using different strategies.

First, read the equation

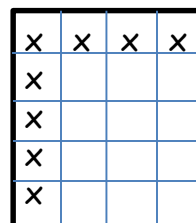
$$5 \times 4 = \underline{\quad}$$

↑                      ↑  
Rows of                  Columns

Then, draw x's to represent your rows and columns.

x x x x  
x  
x  
x  
x

Draw a quadrilateral around the x's and fill in the array.



$3 \times 6 = \underline{\hspace{2cm}}$

$7 \times 2 = \underline{\hspace{2cm}}$

$5 \times 5 = \underline{\hspace{2cm}}$

$4 \times 4 = \underline{\hspace{2cm}}$

$8 \times 4 = \underline{\hspace{2cm}}$

$1 \times 9 = \underline{\hspace{2cm}}$