

Grade 2 · Arrays and Equal Groups · Lesson

Common Core 2.OA.C.4 · mathovore.fr

An array is a set of objects arranged in equal rows and equal columns, like muffins in a pan. To find the total, use repeated addition. Add the number in one row once for every row. For 3 rows of 4, write $4 + 4 + 4 = 12$. Adding the columns gives the same total.

Grade 2 Common Core: 2.OA.C.4

Key facts:

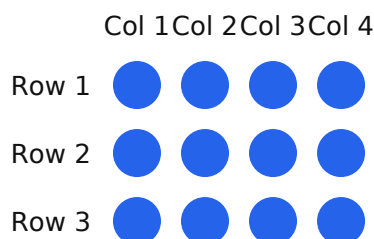
- Rows go across and columns go up and down.
- Every row in an array has the same number of objects.
- A repeated addition equation adds the same number once for each row.
- Adding rows and adding columns give the same total.
- Second grade arrays have up to 5 rows and 5 columns.

What is an array?

An array is a group of objects set in neat rows and columns. Think of muffins in a pan or windows on a building. Rows go across, from left to right. Columns go up and down.

Array

An **array** has the same number of objects in every row and the same number of objects in every column. Each row is an equal group.



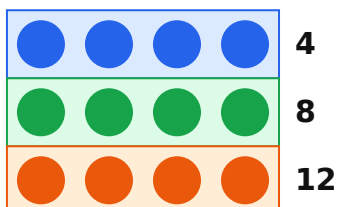
This array has 3 rows and 4 columns. It has 12 dots.

How do you find the total number in an array?

Use repeated addition. Add the number in each row. This array has 3 rows, and each row has 4 dots, so add 4 three times:

$$4+4+4=12$$

The numbers you add are called **addends**. Here every addend is 4. The total is **12**.



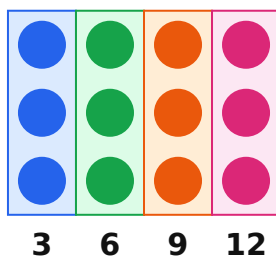
Row by row: 4, then $4 + 4 = 8$, then $4 + 4 + 4 = 12$.

Can you add the columns instead?

Yes. The same array has 4 columns, and each column has 3 dots. Add 3 four times:

$$3+3+3+3=12$$

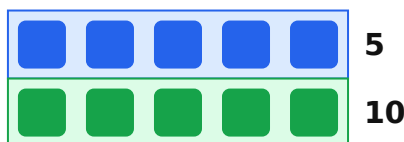
Adding rows and adding columns give the same total, because it is the same array. You can pick the way that feels easier.



Column by column: 3, then 6, then 9, then 12.

Where do you see arrays?

Arrays are all around you. Look at a muffin tin, a cookie tray, a sheet of stickers, the panes of a window, or the seats in a theater. Counting by rows is faster than counting one by one.

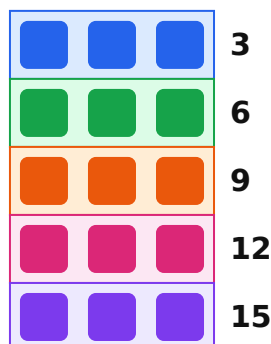


A cookie tray with 2 rows of 5 cookies: $5 + 5 = 10$.

How do you write an equation for an array?

1. Count the rows.
2. Count how many objects are in one row.
3. Write that number once for each row, with plus signs between.
4. Add to find the total.

Example. Maya puts stickers on a sheet in 5 rows. Each row has 3 stickers. The equation is $3+3+3+3+3=15$. Maya has **15** stickers.



Maya's sticker sheet has 5 rows with 3 stickers in each row.

To add fast, use doubles such as $3+3=6$, or add one row at a time and keep a running total: 3, 6, 9, 12, 15.

Arrays and Equal Groups: frequently asked questions

What is an array in 2nd grade math?

An array is a set of objects arranged in equal rows and equal columns, like muffins in a pan. Every row has the same number of objects, and every column has the same number too.

What is the difference between a row and a column?

A row goes across, from left to right. A column goes up and down. A 3 by 4 array has 3 rows and 4 columns, which means 3 rows of 4 and 4 columns of 3.

How do I find the total of an array?

Write a repeated addition equation. Add the number in one row once for every row. For 4 rows of 5, write $5 + 5 + 5 + 5 = 20$.

Why do rows and columns give the same total?

Rows and columns count the same objects in two different ways. In an array with 3 rows of 4,

adding rows gives $4 + 4 + 4 = 12$, and adding columns gives $3 + 3 + 3 + 3 = 12$.

How big can a 2nd grade array be?

In second grade, arrays have up to 5 rows and up to 5 columns, so the largest array has 25 objects. The equations use only addition with equal addends.