MATHEMATICS · KINDERGARTEN TO GRADE 3

Arrays and multiplication

Difficulty level: Easy

Mathematics: Kindergarten to Grade 3

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Overview of the concept

This is how you see a multiplication as rows and columns you can count. Seats in a classroom, eggs in a carton, or tiles on a floor are all arrays, and counting the rows and columns gives you the total. It is the picture that makes multiplication make sense before you start memorising times tables.



Rule

Arrays and multiplication: an array with r rows of c dots has r × c dots.

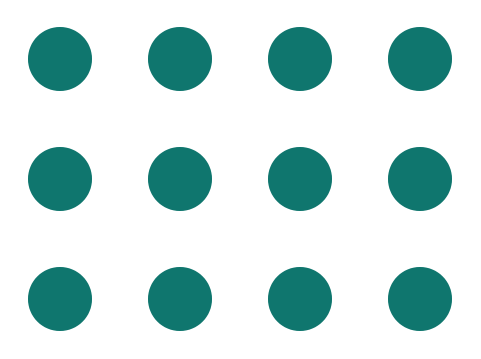
Counting by rows gives the total, and that total is the multiplication r × c.

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Worked examples

EXAMPLE 1

Q How many dots in 3 rows of 4?



SOLUTION

Draw 3 rows, with 4 dots in each row.

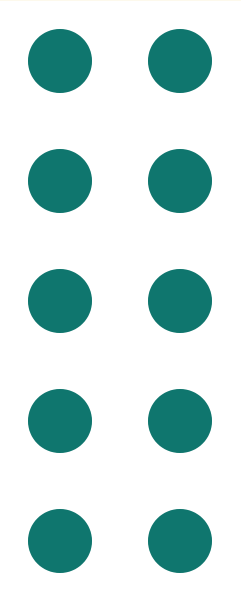
Count by rows: 4, 8, 12

There are 12 dots, so $3 \times 4 = 12$

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EXAMPLE 2

Q How many dots in 5 rows of 2?



SOLUTION

5 rows of 2 = 10 dots

Draw 5 rows, with 2 dots in each row.

Count by rows: 2, 4, 6, 8, 10

There are 10 dots, so 5 × 2 = 10

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Practice questions

1 A muffin tray has 3 rows with 4 muffins in each row. How many muffins are on the tray?

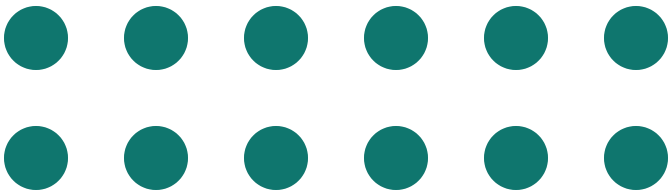
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2 A garden bed has 4 rows with 3 lettuce plants in each row. How many lettuce plants are there in all?

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3 Look at this array of dots. Write the multiplication sentence for the array, then work out how many dots there are in all.



- **A** 2 x 6 = 12
- **B** 2 x 6 = 8
- **C** 3 x 4 = 12
- **D** 2 x 5 = 10

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4 An array has 20 dots with 4 dots in each row. How many rows are there?

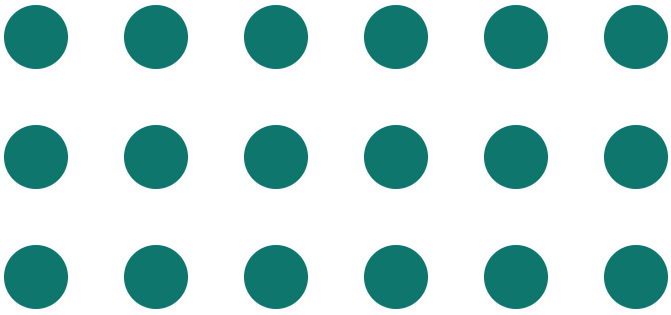
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5 An array has 5 rows of 4 dots. How many dots are there if one more row is added?

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6 A garden has rows of tomato plants, shown as dots below. Count the dots by rows. How many tomato plants are there in all?



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7 An egg tray holds 24 eggs in 4 equal rows. How many eggs are in each row?

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8 Sam says an array with 5 rows of 3 dots has 8 dots because 5 + 3 = 8. What is Sam's mistake?

A. He added 5 + 3 instead of multiplying 5 × 3, which is 15

B. He multiplied 5 × 3 instead of adding 5 + 3, which is 8

C. He counted 5 rows of 3 as 5 × 5, which is 25

D. He added 5 + 5 instead of multiplying 5 × 3, which is 10

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Array A has 3 rows of 4
Array B has 2 rows of 5
Array C has 4 rows of 4
Which array has the most dots?

- A Array A
- B Array B
- C Array C
- D All three arrays have the same number of dots

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Which one does not have 18 dots?

- A 2 rows of 9
- B 3 rows of 6
- C 6 rows of 3
- D 4 rows of 5

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ANSWER KEY

1. 12

2. 12

3. 2 x 6 = 12

4. 5

5. 24

6. 18

7. 6

8. He added 5 + 3 instead of multiplying 5 × 3, which is 15

9. Array C

10. 4 rows of 5

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