

Array Action

Use arrays, strips, and equations to solve equal-group problems.

GRADE 3 • TEKS 3.5.B

3.5.B "represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations;"

NAME _____

DATE _____

SEE EQUAL GROUPS

An array has equal rows and columns. Multiply to find the total in equal groups, or divide to find the number in each group or the number of groups. A strip diagram can show the same equal groups.

WORKED EXAMPLE

Use the array to find the total number of dots.

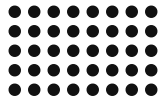


1. There are 3 rows of 7 dots.
2. Write 3×7 .
3. Multiply: $3 \times 7 = 21$.

Answer: 21 dots

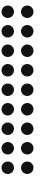
PRACTICE 6 problems

- 1** Use the array. Write an equation and find the total number of dots.



ANSWER _____

- 2** Use the array. How many dots are in each row?



ANSWER _____

- 3** Forty-five trading cards are placed equally into 5 albums. How many cards go in each album? Write a division equation.

ANSWER _____

- 4** A theater has 8 rows with 9 seats in each row. Sixteen seats are reserved. How many seats are open?

ANSWER _____

- 5** Seventy-two game tokens are shared equally by 8 teams. Each team spends 1 token. How many tokens does each team have left?

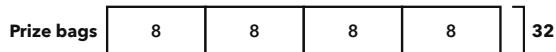
ANSWER _____

- 6** There are 64 markers in 8 equal groups. How many markers are in each group?

ANSWER _____

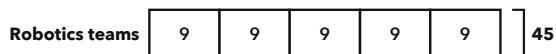
APPLY IT Show your work

- 1** At the school carnival, each prize bag has the same number of tickets. Use the strip diagram to find how many tickets are in all.



ANSWER _____

- 2** The strip diagram shows equal robotics teams. Then 5 students go home. How many students are still at robotics club?



ANSWER _____

CHALLENGE One step up

A library puts 96 books equally on 8 shelves. Then it moves 4 books from each shelf to a display. How many books are left on each shelf? Write equations and explain your reasoning.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Use the array. Write an equation and find the total number of dots.	$5 \times 8 = 40$
2	Use the array. How many dots are in each row?	2
3	Forty-five trading cards are placed equally into 5 albums. How many cards go in each album? Write a division equation.	$45 \div 5 = 9$
4	A theater has 8 rows with 9 seats in each row. Sixteen seats are reserved. How many seats are open?	56
5	Seventy-two game tokens are shared equally by 8 teams. Each team spends 1 token. How many tokens does each team have left?	8
6	There are 64 markers in 8 equal groups. How many markers are in each group?	8

PART 2 • APPLY IT

1. **32 tickets** There are 4 equal groups of 8 tickets. Multiply $4 \times 8 = 32$.
2. **40 students** First find the total: $5 \times 9 = 45$. Then subtract the 5 students who went home: $45 - 5 = 40$.

CHALLENGE

$96 \div 8 = 12$. Then $12 - 4 = 8$, so 8 books are left on each shelf.

Accept correct multiplication or division equations that match each situation. For the challenge, accept an equivalent explanation that shows $96 \div 8 = 12$ and then subtracts 4.