LESSON MAKER PRO

Groups Add Up

See multiplication in arrays, jumps, and equal groups.

GRADE 3 · 3.N.2.1

3.N.2.1 "Represent multiplication facts by modeling a variety of approaches (e.g., manipulatives, repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, skip counting)."

NAME _____ DATE _____

THE BIG IDEA

Equal groups have the same number in each group. To find the total, multiply the number of groups by the number in each group. In an array, each row can be one group.

WORKED EXAMPLE

How many dots are in this array?

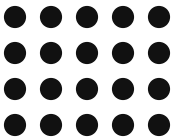


1. Count 3 rows.
2. Count 7 dots in each row.
3. Add: 7 + 7 + 7 = 21.
4. Multiply: 3 × 7 = 21.

Answer: 21 dots

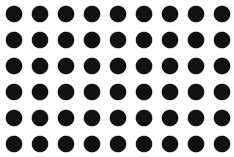
PRACTICE 6 problems

1 How many dots are in this array? Write a multiplication fact.



ANSWER _____

2 What multiplication fact matches this array?



ANSWER _____

3 Use the number line. Starting at 0, how many jumps of 5 reach 30? Write the matching multiplication fact.



ANSWER _____

_____

4 Write a multiplication fact for 8 + 8 + 8 + 8.

ANSWER _____

5 Write a repeated-addition sentence for 5 groups of 6. What is the total?

ANSWER _____

_____

6 What total goes in the empty box in the table?

DOTS IN ROWS

Rows	Dots in each row	Total dots
4	10	40
5	10	50
6	10	___

ANSWER _____

APPLY IT Show your work

1 At recess, 8 teams have 5 players each. How many players are on the teams in all? Write a multiplication fact.

WORK SPACE

ANSWER _____

2 A school fair game gives 9 tickets for each win. Maya wins 4 times. How many tickets does she get? Show your answer with repeated addition.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Write a repeated-addition sentence and a multiplication sentence for this array. Explain why they have the same total.



WORK SPACE AND ANSWER

ANSWER KEY

Groups Add Up

GRADE 3 · 3.N.2.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	How many dots are in this array? Write a multiplication fact.	**4 × 5 = 20; 20 dots**
2	What multiplication fact matches this array?	**6 × 9 = 54**
3	Use the number line. Starting at 0, how many jumps of 5 reach 30? Write the matching multiplication fact.	**6 jumps; 6 × 5 = 30**
4	Write a multiplication fact for 8 + 8 + 8 + 8.	**4 × 8 = 32**
5	Write a repeated-addition sentence for 5 groups of 6. What is the total?	**6 + 6 + 6 + 6 + 6 = 30; total: 30**
6	What total goes in the empty box in the table?	**60**

PART 2 · APPLY IT

1. **8 × 5 = 40; 40 players** There are 8 equal groups of 5 players. Multiply 8 × 5 to get 40.
2. **9 + 9 + 9 + 9 = 36; 36 tickets** Add 9 tickets for each of Maya's 4 wins. The sum is 36.

CHALLENGE

8 + 8 + 8 + 8 + 8 + 8 = 48; 6 × 8 = 48. Both count 6 rows of 8 dots.

Accept multiplication facts with the factors reversed. For the challenge, accept adding 6 eight times instead of adding 8 six times if the explanation matches the array.