

Multiply Model Power

Use arrays, place value, and partial products to multiply.

GRADE 4 • NY-4.NBT.5

NY-4.NBT.5 "Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations..."

NAME _____

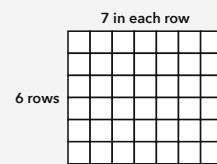
DATE _____

BUILD THE PRODUCT

Break apart a factor by place value. In an array or area model, multiply each smaller part, then add the partial products.

WORKED EXAMPLE

What multiplication equation and product does the array show?

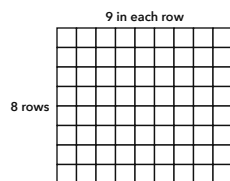


1. Count 6 rows with 7 squares in each row.
2. Write $6 \times 7 = 42$.
3. The array shows 42 squares.

Answer: $6 \times 7 = 42$

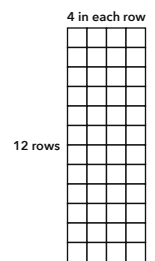
PRACTICE 6 problems

- 1** What multiplication equation and product does this array show?



ANSWER _____

- 2** What multiplication equation and product does this array show?



ANSWER _____

- 3** Find 324×3 .

ANSWER _____

- 4** Use place value to find $1,205 \times 4$.

ANSWER _____

- 5** Use partial products to find 23×14 . Show your partial products.

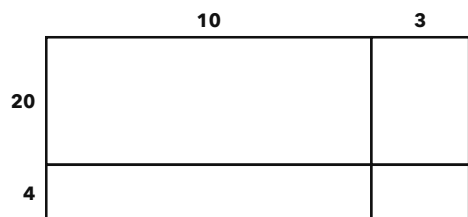
ANSWER _____

- 6** Break apart 12 to find 45×12 . Write an equation and the product.

ANSWER _____

APPLY IT Show your work

- 1** At the school plant sale, a class sets 13 seedlings in each of 24 rows. Use the blank area model to find how many seedlings the class sets.



ANSWER _____

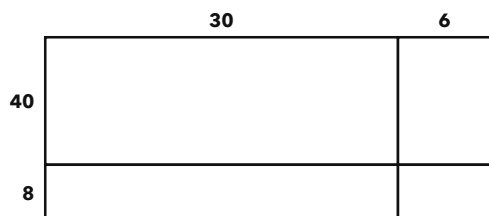
- 2** The drama club sells 1,208 raffle tickets on each of 5 days. How many raffle tickets does the club sell altogether?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Use the blank area model. Write the four partial products and the total product.



WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	What multiplication equation and product does this array show?	$8 \times 9 = 72$
2	What multiplication equation and product does this array show?	$12 \times 4 = 48$
3	Find 324×3 .	972
4	Use place value to find $1,205 \times 4$.	4,820
5	Use partial products to find 23×14 . Show your partial products.	$23 \times 10 = 230$; $23 \times 4 = 92$; $230 + 92 = 322$
6	Break apart 12 to find 45×12 . Write an equation and the product.	$45 \times (10 + 2) = 45 \times 10 + 45 \times 2 = 450 + 90 = 540$

PART 2 • APPLY IT

1. **312 seedlings** Break 24 into $20 + 4$ and 13 into $10 + 3$. Add 200, 60, 40, and 12 to get 312.
2. **6,040 raffle tickets** Multiply 1,208 by 5. The product is 6,040.

CHALLENGE

$$40 \times 30 = 1,200; 40 \times 6 = 240; 8 \times 30 = 240; 8 \times 6 = 48; 1,200 + 240 + 240 + 48 = 1,728$$

Accept equivalent equations that correctly break apart factors by tens and ones. For the challenge, accept partial products in any order if their sum is 1,728.