

Multiply Model Mission

Use place value to solve multiplication problems.

GRADE 4 • 4.NR.2.3

4.NR.2.3 "Solve relevant problems involving multiplication of a number with up to four digits by a 1-digit whole number or involving multiplication of two two-digit numbers using strategies based on place value and the properties of operations..."

NAME _____

DATE _____

BREAK APART FACTORS

Break a factor into tens and ones. Multiply each part, then add the partial products. You can show the parts with an equation, a rectangular array, or an area model.

WORKED EXAMPLE

$$34 \times 12$$

$$1. 34 \times 12 = 34 \times (10 + 2)$$

$$2. 34 \times 10 = 340 \text{ and } 34 \times 2 = 68$$

$$3. 340 + 68 = 408$$

Answer: 408

PRACTICE 6 problems

1 $2,406 \times 3$. Use place value to show your work.

ANSWER _____

2 $1,725 \times 4$. Write partial products.

ANSWER _____

3 46×23 . Use an area model or equations.

ANSWER _____

4 57×31 . Use an area model or equations.

ANSWER _____

5 28×45 . Show the partial products you add.

ANSWER _____

6 $3,208 \times 2$. Use place value to show your work.

ANSWER _____

APPLY IT Show your work

- 1** A gaming club sets up 24 tables. Each table has 18 player score sheets. How many score sheets does the club have? Show an equation or area model.

WORK SPACE

ANSWER _____

- 2** A library puts 1,325 new books on display each week for 3 weeks. How many books does the library put on display? Show your work with place value.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A school orders 4,086 art tiles for each of 7 hallways. How many art tiles are ordered altogether? Use an equation, then explain how place value helps you multiply.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	$2,406 \times 3$. Use place value to show your work.	7,218
2	$1,725 \times 4$. Write partial products.	6,900
3	46×23 . Use an area model or equations.	1,058
4	57×31 . Use an area model or equations.	1,767
5	28×45 . Show the partial products you add.	1,260
6	$3,208 \times 2$. Use place value to show your work.	6,416

PART 2 • APPLY IT

- 432 score sheets** Multiply 24×18 . Break 18 into 10 and 8, then add 240 and 192.
- 3,975 books** Multiply $1,325 \times 3$. Add the products of 3 times each place-value part.

CHALLENGE

$4,086 \times 7 = 28,602$. I multiplied 7 by the thousands, hundreds, tens, and ones, then added the place-value products.

Accept correct products shown with partial products, a rectangular array, an area model, or a standard algorithm if place value is clear. For the challenge, accept any accurate explanation that connects the digits to their place values.