

Multiply With Models

Use place value to break apart factors and multiply.

GRADE 4 • 4.NBT.B.5

CCSS.Math.Content.4.NBT.B.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 _____

BREAK APART FACTORS

Split a factor into tens, hundreds, and ones. Multiply each part, then add the partial products to find the total.

WORKED EXAMPLE

$$34 \times 12$$

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

$$2. 34 \times 10 = 340$$

$$3. 34 \times 2 = 68$$

$$4. 340 + 68 = 408$$

Answer: 408

PRACTICE 6 problems

1 $3,206 \times 4$

ANSWER _____

2 $1,457 \times 6$

ANSWER _____

3 $2,019 \times 3$

ANSWER _____

4 27×16

ANSWER _____

5 43×22

ANSWER _____

6 58×14

ANSWER _____

APPLY IT Show your work

- 1** A reading challenge asks students to read 246 pages each week for 5 weeks. How many pages will a student read in all?

WORK SPACE

ANSWER _____

- 2** For a craft project, 18 teams each use 25 beads. How many beads do the teams use altogether?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Use place-value equations to solve $4,096 \times 7$. Show the partial products and explain why you add them.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	$3,206 \times 4$	12,824
2	$1,457 \times 6$	8,742
3	$2,019 \times 3$	6,057
4	27×16	432
5	43×22	946
6	58×14	812

PART 2 • APPLY IT

1. **1,230 pages** Multiply 246×5 . The product is 1,230, so the student reads 1,230 pages.
2. **450 beads** Multiply 18×25 . The product is 450, so the teams use 450 beads.

CHALLENGE

$4,096 \times 7 = (4,000 \times 7) + (90 \times 7) + (6 \times 7) = 28,000 + 630 + 42 = 28,672$. You add the partial products because they are the values of the thousands, tens, and ones in 4,096 multiplied by 7.

Accept standard multiplication, partial products, area models, or equations that correctly show place-value reasoning. For the challenge, accept equivalent decompositions, such as splitting 4,096 into $4,000 + 96$.