LESSON MAKER PRO

Products in Parts

Use place value to multiply larger numbers.

GRADE 4 · MT.4.NBT.5

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

NAME _____ DATE _____

SPLIT AND MULTIPLY

An area model splits each factor into place-value parts. Multiply each pair of parts, then add the partial products to find the whole product.

WORKED EXAMPLE

What product does the area model show?

	10	4
20	200	80
6	60	24

1. The parts make 20 + 6 = 26 and 10 + 4 = 14.
2. Multiply each pair: 20 × 10 = 200, 20 × 4 = 80, 6 × 10 = 60, and 6 × 4 = 24.
3. Add the partial products: 200 + 80 + 60 + 24 = 364.

Answer: 26 × 14 = 364

PRACTICE 6 problems

1 Find the product shown by the area model. Write an equation that adds its partial products.

	10	5
30		
2		

ANSWER _____

_____

2 Find the product shown by the area model.

	20	3
40		
7		

ANSWER _____

3 Find 1,208 × 3. Write an equation that shows how you split 1,208 into parts.

ANSWER _____

_____

4 Find 246 × 4.

ANSWER _____

5 Find 58 × 16.

ANSWER _____

6 Find 3,104 × 5.

ANSWER _____

APPLY IT Show your work

1 A game club buys 18 packs of trading cards. Each pack has 24 cards. How many cards does the club buy?

WORK SPACE

ANSWER _____

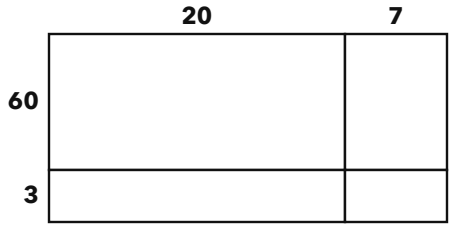
2 At a school art fair, each of 7 craft kits holds 128 beads. How many beads are in all 7 kits?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student says the area model shows a product of 1,641. Find the correct product and name the partial product the student missed.



WORK SPACE AND ANSWER

ANSWER KEY

Products in Parts

GRADE 4 · MT.4.NBT.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the product shown by the area model. Write an equation that adds its partial products.	**300 + 150 + 20 + 10 = 480**
2	Find the product shown by the area model.	**1,081**
3	Find 1,208 × 3. Write an equation that shows how you split 1,208 into parts.	**(1,200 × 3) + (8 × 3) = 3,624**
4	Find 246 × 4.	**984**
5	Find 58 × 16.	**928**
6	Find 3,104 × 5.	**15,520**

PART 2 · APPLY IT

1. **432 cards** Multiply 18 × 24 = (18 × 20) + (18 × 4) = 360 + 72 = 432.
2. **896 beads** Multiply 128 × 7 = (100 × 7) + (20 × 7) + (8 × 7) = 700 + 140 + 56 = 896.

CHALLENGE

1,701. The student missed 3 × 20 = 60.

Accept partial products in any order and equivalent equations that show a correct place-value split. For the challenge, the four partial products are 1,200, 420, 60, and 21.