LESSON MAKER PRO

Products in Parts

Use place value to multiply and check.

GRADE 4 · 4.NOS.B.5

4.NOS.B.5 "Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers. Apply estimation strategies to estimate products. Use strategies based on place value (e.g., partial products) to multiply..."

NAME _____ DATE _____

SPLIT AND MULTIPLY

Split factors into tens and ones. Multiply each pair of parts, then add the partial products. You can round a factor to estimate and check your answer.

WORKED EXAMPLE

Find the product shown by the area model.

	10	5
40	400	200
2	20	10

1. The factors are 40 + 2 and 10 + 5.
2. Multiply the parts: 400, 200, 20, and 10.
3. Add: 400 + 200 + 20 + 10 = 630.

Answer: 630

PRACTICE 4 problems

1 Find 34 × 12 using partial products.

ANSWER _____

2 Round 216 to the nearest hundred to estimate 216 × 4. Then find the exact product.

ANSWER _____

3 Find 53 × 16 by doubling one factor and halving the other.

ANSWER _____

4 Find 1,203 × 3.

ANSWER _____

APPLY IT Show your work

1 A sticker sheet has the rows and columns shown in the model. How many stickers fit? Show the partial products.

	10	3
20	200	60
4	40	12

ANSWER _____

2 You earn 1,248 points in each of 7 arcade games. How many points do you earn in all?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find the product shown by the model. Explain how doubling one factor and halving the other gives the same product.

	20	2
30	600	60
6	120	12

WORK SPACE AND ANSWER

ANSWER KEY

Products in Parts

GRADE 4 · 4.NOS.B.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find 34 × 12 using partial products.	**408**
2	Round 216 to the nearest hundred to estimate 216 × 4. Then find the exact product.	**Estimate: 800. Exact product: 864.**
3	Find 53 × 16 by doubling one factor and halving the other.	**848**
4	Find 1,203 × 3.	**3,609**

PART 2 · APPLY IT

1. **312 stickers** 20 × 10 + 20 × 3 + 4 × 10 + 4 × 3 = 200 + 60 + 40 + 12 = 312.
2. **8,736 points** Multiply 1,248 × 7 to get 8,736.

CHALLENGE

36 × 22 = 792. Doubling 36 and halving 22 gives 72 × 11 = 792, so the product stays the same.

Accept any correct partial-products method. For problem 3, students may show 106 × 8 = 848.