LESSON MAKER PRO

Smart Number Moves

Use patterns and parts to solve real math situations.

GRADE 4 · 4.MP.7

4.MP.7 "Look for and make use of structure."

NAME _____ DATE _____

SPOT THE STRUCTURE

Look for a helpful pattern or break a number into easier parts. Solve the smaller parts, then put the results together. Check that your answer fits the situation.

WORKED EXAMPLE

A concert has 7 rows of 16 chairs. How many chairs are there?

1. Break 16 into 8 + 8.
2. Multiply: 7 x 8 = 56.
3. Add the two equal parts: 56 + 56 = 112.

Answer: 112 chairs

PRACTICE 6 problems

1 A club puts 14 stickers in each of 9 prize bags. Use 14 = 10 + 4 to find the total number of stickers.

ANSWER _____

2 A garden has 12 rows with 13 plants in each row. Break apart 13 to find the total number of plants.

ANSWER _____

3 A teacher makes 25 groups of 4 reading cards. Use the fact that 4 groups of 25 make 100 to find the total number of cards.

ANSWER _____

4 A library has 18 shelves with 5 books on each shelf. Use a pattern or an easy split to find the total number of books.

ANSWER _____

5 A cafeteria sets up 11 tables with 23 seats at each table. Break apart 23 to find the total number of seats.

ANSWER _____

6 A team orders 24 jerseys with 3 name labels on each jersey. Use a pattern or an easy split to find the total number of labels.

ANSWER _____

APPLY IT Show your work

1 The school store has 19 packs of 12 pencils. How many pencils does the store have? Use the nearby fact 20 x 12, then adjust.

WORK SPACE

ANSWER _____

2 A trading-card club gives 14 cards to each of 23 members. How many cards does the club give away? Break apart 23 to solve.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A school packs 34 boxes with 18 bookmarks in each box. How many bookmarks are packed? Explain how using 18 = 20 - 2 can make the multiplication easier.

WORK SPACE AND ANSWER

ANSWER KEY # Smart Number Moves

GRADE 4 · 4.MP.7

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A club puts 14 stickers in each of 9 prize bags. Use 14 = 10 + 4 to find the total number of stickers.	**126 stickers**
2	A garden has 12 rows with 13 plants in each row. Break apart 13 to find the total number of plants.	**156 plants**
3	A teacher makes 25 groups of 4 reading cards. Use the fact that 4 groups of 25 make 100 to find the total number of cards.	**100 reading cards**
4	A library has 18 shelves with 5 books on each shelf. Use a pattern or an easy split to find the total number of books.	**90 books**
5	A cafeteria sets up 11 tables with 23 seats at each table. Break apart 23 to find the total number of seats.	**253 seats**
6	A team orders 24 jerseys with 3 name labels on each jersey. Use a pattern or an easy split to find the total number of labels.	**72 labels**

PART 2 · APPLY IT

1. **228 pencils** Find 20 x 12 = 240. Subtract one pack of 12, so 240 - 12 = 228.
2. **322 cards** Break 23 into 20 + 3. Then 20 x 14 = 280 and 3 x 14 = 42, so the total is 322.

CHALLENGE

612 bookmarks; 34 x 18 = 34 x (20 - 2) = 680 - 68 = 612.

Accept any correct total and any valid use of breaking apart, nearby facts, or equal groups. Students may use a different structure as long as their work and answer are correct.