LESSON MAKER PRO

Pattern Power

Use repeated groups to solve and check.

GRADE 3 · 3.MP.8

3.MP.8 "Look for and express regularity in repeated reasoning."

NAME _____ DATE _____

SPOT THE SAME GROUP

When the same-sized group repeats, solve one group once and use repeated addition or multiplication. Notice that each new group adds the same amount. Check your total by counting the groups another way.

WORKED EXAMPLE

A baker puts 3 muffins on each tray. She fills 7 trays. How many muffins does she bake?

1. Each tray has 3 muffins.
2. Add the equal groups: 3 + 3 + 3 + 3 + 3 + 3 + 3 = 21.
3. Write a multiplication equation: 7 × 3 = 21.

Answer: 21 muffins

PRACTICE 6 problems

1 At an art fair, each of 4 tables has 5 bead bracelets. How many bracelets are there? Write a repeated-addition equation and a multiplication equation.

ANSWER _____

2 Each of 6 game packs holds 8 trading cards. How many cards are in all? What amount is added each time another pack is counted?

ANSWER _____

3 Noah earns 2 tickets each time he finishes a reading log. He finishes 9 logs. How many tickets does he earn? Use skip-counting or repeated addition to check.

ANSWER _____

4 In a racing game, a player earns 6 points for each of 4 laps. How many points does the player earn? Explain what repeats.

ANSWER _____

5 The school store puts 9 pencils in each of 5 prize bags. How many pencils does the store use? Write an equation to check.

ANSWER _____

6 At a toy drive, each box holds 4 stuffed animals. The volunteers count 4, 8, 12, 16, 20, 24. How many stuffed animals are in 6 boxes? What regular change do you notice?

ANSWER _____

APPLY IT Show your work

1 Jada earns 6 coins for each level she finishes in a game. She finishes 8 levels, then spends 5 coins on a helmet. How many coins does she have left? Show the equal groups first.

WORK SPACE

ANSWER _____

2 A library has 8 shelves with 6 mystery books on each shelf. Then 4 books are checked out. How many mystery books remain?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A game shop puts 6 trading cards in each pack. Omar has 12 packs, then gives 9 cards to his cousin. How many cards does Omar have now? Explain how repeated reasoning helps you solve and check.

WORK SPACE AND ANSWER

ANSWER KEY # Pattern Power

GRADE 3 · 3.MP.8

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	At an art fair, each of 4 tables has 5 bead bracelets. How many bracelets are there? Write a repeated-addition equation and a multiplication equation.	**20 bracelets; 5 + 5 + 5 + 5 = 20 and 4 × 5 = 20**
2	Each of 6 game packs holds 8 trading cards. How many cards are in all? What amount is added each time another pack is counted?	**48 cards; add 8 each time**
3	Noah earns 2 tickets each time he finishes a reading log. He finishes 9 logs. How many tickets does he earn? Use skip-counting or repeated addition to check.	**18 tickets; 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 18**
4	In a racing game, a player earns 6 points for each of 4 laps. How many points does the player earn? Explain what repeats.	**24 points; a group of 6 points repeats 4 times**
5	The school store puts 9 pencils in each of 5 prize bags. How many pencils does the store use? Write an equation to check.	**45 pencils; 5 × 9 = 45**
6	At a toy drive, each box holds 4 stuffed animals. The volunteers count 4, 8, 12, 16, 20, 24. How many stuffed animals are in 6 boxes? What regular change do you notice?	**24 stuffed animals; the total increases by 4 for each box**

PART 2 · APPLY IT

1. **43 coins** Use repeated groups: 8 × 6 = 48 coins. Then subtract the coins spent: 48 - 5 = 43.
2. **44 books** Find the repeated groups first: 8 × 6 = 48 books. Subtract the checked-out books: 48 - 4 = 44.

CHALLENGE

63 cards; 12 × 6 = 72, and 72 - 9 = 63

Accept correct repeated-addition equations with addends in any order and correct multiplication equations with factors in either order. Students may use skip-counting, repeated addition, or multiplication if their explanation shows the equal group that repeats.