

Story Math Detectives

Use the story to choose, solve, and check.

GRADE 3 • 3.MP.2

3.MP.2 "Reason abstractly and quantitatively."

NAME _____

DATE _____

MAKE SENSE OF AMOUNTS

Look at the amounts in a story and decide whether you need to combine equal groups, share equally, or find what is left. Write an equation, solve it, and check that your answer fits the story and has the right unit.

WORKED EXAMPLE

A book cart has 4 bins. Each bin holds 7 books. How many books are on the cart?

1. There are 4 equal groups of 7 books.
2. Write $4 \times 7 = 28$.
3. The cart has 28 books.

Answer: 28 books

PRACTICE 6 problems

- 1** A baker packs 3 boxes with 6 cookies in each box. Choose an operation, write an equation, and find the total number of cookies.

ANSWER _____

- 2** A child puts 24 toy cars equally into 3 bins. Write an equation and find how many toy cars go in each bin. Explain why division fits the story.

ANSWER _____

- 3** Nine teams each get 2 flags for a field day. Write a number sentence, find the total, and check with repeated addition.

ANSWER _____

- 4** Leo has 35 trading cards. He gives 8 cards to his cousin. Choose an operation and find how many cards Leo has left. Explain your choice.

ANSWER _____

- 5** A craft club buys 5 packs of 10 beads. Write an equation, find the total number of beads, and check with addition.

ANSWER _____

- 6** A library helper places 30 comic books equally on 5 shelves. Write an equation and find how many comic books are on each shelf. Explain how you know.

ANSWER _____

APPLY IT Show your work

- 1** At a school fair, 6 trays hold 9 mini muffins each. Students buy 15 mini muffins. How many mini muffins remain? Write two equations. Check that your answer is less than the number of mini muffins at the start.

WORK SPACE

ANSWER _____

- 2** Nora earns 36 points at an arcade. She uses 11 points, then shares the remaining points equally among 5 prize jars. How many points go in each jar? Write two equations.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

At a gaming club, 9 game stations each have 5 players. Then 12 players leave. How many players are still playing? Explain why you multiply first and subtract second.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A baker packs 3 boxes with 6 cookies in each box. Choose an operation, write an equation, and find the total number of cookies.	$3 \times 6 = 18$ cookies
2	A child puts 24 toy cars equally into 3 bins. Write an equation and find how many toy cars go in each bin. Explain why division fits the story.	$24 \div 3 = 8$ toy cars in each bin. Division fits because the cars are shared equally.
3	Nine teams each get 2 flags for a field day. Write a number sentence, find the total, and check with repeated addition.	$9 \times 2 = 18$ flags. Check: $2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 18$.
4	Leo has 35 trading cards. He gives 8 cards to his cousin. Choose an operation and find how many cards Leo has left. Explain your choice.	$35 - 8 = 27$ trading cards. Subtraction fits because Leo gives some cards away.
5	A craft club buys 5 packs of 10 beads. Write an equation, find the total number of beads, and check with addition.	$5 \times 10 = 50$ beads. Check: $10 + 10 + 10 + 10 + 10 = 50$.
6	A library helper places 30 comic books equally on 5 shelves. Write an equation and find how many comic books are on each shelf. Explain how you know.	$30 \div 5 = 6$ comic books on each shelf. Equal sharing means division.

PART 2 • APPLY IT

- 39 mini muffins remain.** $6 \times 9 = 54$ mini muffins at the start. Then $54 - 15 = 39$ mini muffins remain.
- 5 points go in each jar.** $36 - 11 = 25$ points remain. Then $25 \div 5 = 5$ points in each jar.

CHALLENGE

33 players are still playing. $9 \times 5 = 45$ finds the starting total, then $45 - 12 = 33$ finds the players still playing.

Accept equivalent equations and clear explanations that match the story. Students should label answers with the correct unit and use an operation that makes sense for the situation.