LESSON MAKER PRO

Math Story Models

Turn real situations into equations, solve, and check.

GRADE 3 · 3.MP.4

3.MP.4 "Model with mathematics."

NAME _____ DATE _____

BUILD A MATH MODEL

A math model uses numbers and an equation to show what is happening in a real situation. Decide whether the story is about joining, taking away, equal groups, or equal shares. Solve your equation, then check that your answer fits the story.

WORKED EXAMPLE

Six teams collect 7 cans each for a food drive. How many cans do they collect altogether?

1. There are equal groups, so use multiplication.
2. Write 6 x 7 = ___.
3. Multiply: 6 x 7 = 42.
4. Check: 7 + 7 + 7 + 7 + 7 + 7 = 42.

Answer: 42 cans

PRACTICE 6 problems

1 The school store has 3 boxes with 9 erasers in each box. Write a multiplication equation, solve, and check with repeated addition.

ANSWER _____

2 A game club has 32 game tokens. Four players share the tokens equally. Write a division equation, solve, and check with multiplication.

ANSWER _____

3 Lina has 25 beads. She uses 11 beads to make a bracelet. Write a subtraction equation, solve, and check with addition.

ANSWER _____

4 Eighteen students sign up for a museum trip. Then 12 more students sign up. Write an addition equation, solve, and check with subtraction.

ANSWER _____

5 A smoothie recipe uses 2 cups of fruit for each batch. A cafe makes 4 batches. Write a multiplication equation, solve, and check with repeated addition.

ANSWER _____

6 A video game event lasts 45 minutes. The first round lasts 15 minutes. Write a subtraction equation to find how many minutes are left, then check with addition.

ANSWER _____

APPLY IT Show your work

1 At a carnival game booth, each turn costs $3. The booth collects $24. Write an equation to model the situation. How many turns did players take? Check your answer.

WORK SPACE

ANSWER _____

2 Maya reads 12 pages of her book on Monday and 17 pages on Tuesday. She wants to read 40 pages by the end of Wednesday. Write an equation with a blank to find how many pages she must read on Wednesday. Check your answer.

WORK SPACE

ANSWER _____

CHALLENGE One step up

At robotics club, 4 teams collect 13 bottle caps each. The club uses 17 bottle caps for a project. How many bottle caps are left? Write two equations or one equation with parentheses. Then explain how your equation matches the story.

WORK SPACE AND ANSWER

ANSWER KEY

Math Story Models

GRADE 3 · 3.MP.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The school store has 3 boxes with 9 erasers in each box. Write a multiplication equation, solve, and check with repeated addition.	**3 x 9 = 27; 9 + 9 + 9 = 27**
2	A game club has 32 game tokens. Four players share the tokens equally. Write a division equation, solve, and check with multiplication.	**32 / 4 = 8; 4 x 8 = 32**
3	Lina has 25 beads. She uses 11 beads to make a bracelet. Write a subtraction equation, solve, and check with addition.	**25 - 11 = 14; 14 + 11 = 25**
4	Eighteen students sign up for a museum trip. Then 12 more students sign up. Write an addition equation, solve, and check with subtraction.	**18 + 12 = 30; 30 - 12 = 18**
5	A smoothie recipe uses 2 cups of fruit for each batch. A cafe makes 4 batches. Write a multiplication equation, solve, and check with repeated addition.	**2 x 4 = 8; 2 + 2 + 2 + 2 = 8**
6	A video game event lasts 45 minutes. The first round lasts 15 minutes. Write a subtraction equation to find how many minutes are left, then check with addition.	**45 - 15 = 30; 30 + 15 = 45**

PART 2 · APPLY IT

1. **24 / 3 = 8; 8 turns. Check: 8 x 3 = 24.** Divide the total money by the cost of one turn. Multiply the number of turns by $3 to check.
2. **12 + 17 + ___ = 40; 11 pages. Check: 12 + 17 + 11 = 40.** Add the pages from Monday and Tuesday, then subtract that total from 40. Substitute 11 into the equation to check.

CHALLENGE

4 x 13 = 52; 52 - 17 = 35. There are 4 equal groups of 13 bottle caps, then 17 bottle caps are used, so 35 bottle caps are left.

Accept equivalent equations that correctly model each situation and include a valid check. For the challenge, accept a correct equation such as (4 x 13) - 17 = 35 with an explanation that connects multiplication to the collected caps and subtraction to the caps used.