

Math Model Mission

Use equations to show real-world math.

GRADE 3 • 3.MP.4

3.MP.4 "Model with mathematics."

NAME _____

DATE _____

CHOOSE A MODEL

Choose a model that matches the story, such as an equation, a quick sketch, or equal groups. Use multiplication to find a total from equal groups, and use division to share equally. Solve, then check that your answer fits the story.

WORKED EXAMPLE

Mia puts 3 shells in each of 7 jars.
Use an equation to model the story
and find how many shells Mia has.

1. There are 7 equal groups of 3 shells.
2. Write $7 \times 3 = 21$.
3. Check: 3 added 7 times equals 21.

Answer: 21 shells

PRACTICE 6 problems

- 1** A pet shop has 5 cages with 8 fish in each cage. Write an equation to model the story. How many fish are there? Check your answer with repeated addition.

ANSWER _____

- 2** Noah puts 36 trading cards equally on 9 display pages. Write a division equation. How many cards are on each page? Check with multiplication.

ANSWER _____

- 3** A classroom has 2 boxes of crayons. Each box has 12 crayons. Write an equation to model the story. How many crayons are there? Check your answer.

ANSWER _____

- 4** A bakery puts 45 cupcakes on trays with 5 cupcakes on each tray. Write a division equation. How many trays are needed? Check with multiplication.

ANSWER _____

- 5** Kai shares 20 pencils equally among 4 cups for an art station. Write a division equation. How many pencils go in each cup? Check your answer.

ANSWER _____

- 6** For field day, 6 teams each get 8 cones. Write an equation to model the story. How many cones are needed? Check your answer.

ANSWER _____

APPLY IT Show your work

- 1** A school garden has 4 rows of 9 seeds. After a week, 11 seeds have not sprouted. How many seeds have sprouted? Use equations or a labeled sketch to model the story. Show a check.

WORK SPACE

ANSWER _____

- 2** At an arcade party, 54 prize tickets are shared equally among 6 friends. Each friend then earns 4 more tickets in a game. How many tickets does each friend have? Model the story with equations and check your answer.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

An art club has 5 tables, and each table needs 9 paintbrushes. Paintbrushes are sold only in packs of 8. How many packs must the club buy? Model the problem and explain why that number of packs is enough.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A pet shop has 5 cages with 8 fish in each cage. Write an equation to model the story. How many fish are there? Check your answer with repeated addition.	$5 \times 8 = 40$; 40 fish. Check: $8 + 8 + 8 + 8 + 8 = 40$.
2	Noah puts 36 trading cards equally on 9 display pages. Write a division equation. How many cards are on each page? Check with multiplication.	$36 \div 9 = 4$; 4 cards on each page. Check: $9 \times 4 = 36$.
3	A classroom has 2 boxes of crayons. Each box has 12 crayons. Write an equation to model the story. How many crayons are there? Check your answer.	$2 \times 12 = 24$; 24 crayons. Check: $12 + 12 = 24$.
4	A bakery puts 45 cupcakes on trays with 5 cupcakes on each tray. Write a division equation. How many trays are needed? Check with multiplication.	$45 \div 5 = 9$; 9 trays. Check: $9 \times 5 = 45$.
5	Kai shares 20 pencils equally among 4 cups for an art station. Write a division equation. How many pencils go in each cup? Check your answer.	$20 \div 4 = 5$; 5 pencils in each cup. Check: $4 \times 5 = 20$.
6	For field day, 6 teams each get 8 cones. Write an equation to model the story. How many cones are needed? Check your answer.	$6 \times 8 = 48$; 48 cones. Check: 8 added 6 times equals 48.

PART 2 • APPLY IT

- 25 seeds have sprouted.** Find the total seeds with $4 \times 9 = 36$. Then subtract, $36 - 11 = 25$; check with $25 + 11 = 36$.
- 13 tickets each.** Share first: $54 \div 6 = 9$. Then add the extra tickets, $9 + 4 = 13$; check that $6 \times 9 = 54$.

CHALLENGE

6 packs. The club needs $5 \times 9 = 45$ paintbrushes. Five packs have 40 paintbrushes, so 5 packs are not enough. Six packs have 48 paintbrushes, which is enough.

Accept correct equations, equal-group sketches, tables, or repeated-addition checks that match each story. For the challenge, students must show that fewer packs do not provide enough paintbrushes.