LESSON MAKER PRO

# Math Model Missions

*Turn real situations into math you can solve.*

**GRADE 5 · 5.MP.4**

**5.MP.4** "Model with mathematics."

NAME _____ DATE _____

## BUILD A MATH MODEL

First, identify what you know and what you need to find. Choose an operation that matches the situation, write an equation or expression, solve it, and check whether the answer fits the story.

## WORKED EXAMPLE

A theater group buys 7 tickets that cost $6 each. What is the total cost?

1. There are 7 equal groups of $6.
2. Multiply: 7 * 6 = 42.
3. Check: 42 / 7 = 6, so the total fits.

**Answer: $42**

## PRACTICE 6 problems

**1** A school store sells 4 notebooks for $3 each. Jada pays with $15. Write a model, solve, and check. How much change does Jada get?

**ANSWER** _____

**2** Twenty stickers are shared equally among 4 players. Write a model, solve, and check. How many stickers does each player get?

**ANSWER** _____

**3** In an arcade game, Luis earns 9 points in each of 5 rounds, then loses 8 points. Write a model, solve, and check. What is his final score?

**ANSWER** _____

**4** The garden club plants 32 seedlings in 4 equal rows. Write a model, solve, and check. How many seedlings are in each row?

**ANSWER** _____

**5** A snack booth uses 2/3 cup of fruit for each tray. It makes 3 trays. Write a model, solve, and check. How many cups of fruit are needed?

**ANSWER** _____

**6** The recycling team puts 40 cans into 5 equal bins. Write a model, solve, and check. How many cans go in each bin?

**ANSWER** _____

## APPLY IT Show your work

**1** Maya wants to buy a $30 game avatar item. The table shows money she earned from chores. Write a model using the earnings and the cost. How much money will Maya have left after buying the item?

**MAYA'S CHORE EARNINGS**

| Chore | Money Earned |
|---|---|
| Walk dog | $12 |
| Wash car | $9 |
| Organize shelf | $11 |

WORK SPACE

**ANSWER** _____

**2** A robotics club has $53 for batteries that cost $4 each. Write a division model. What is the greatest whole number of batteries the club can buy, and how much money will be left?

WORK SPACE

**ANSWER** _____

## CHALLENGE One step up

A game club has $120 for supplies. It must first buy 5 snack coupons at $4 each. Trading card packs cost $9 each. What is the greatest whole number of card packs the club can buy? Explain how you know one more pack will not fit in the budget.

WORK SPACE AND ANSWER

**ANSWER KEY**

# Math Model Missions

**GRADE 5 · 5.MP.4**

## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | A school store sells 4 notebooks for $3 each. Jada pays with $15. Write a model, solve, and check. How much change does Jada get? | **15 - (4 * 3) = 3; $3 change.** |
| 2 | Twenty stickers are shared equally among 4 players. Write a model, solve, and check. How many stickers does each player get? | **20 / 4 = 5; 5 stickers per player.** |
| 3 | In an arcade game, Luis earns 9 points in each of 5 rounds, then loses 8 points. Write a model, solve, and check. What is his final score? | **(9 * 5) - 8 = 37; 37 points.** |
| 4 | The garden club plants 32 seedlings in 4 equal rows. Write a model, solve, and check. How many seedlings are in each row? | **32 / 4 = 8; 8 seedlings in each row.** |
| 5 | A snack booth uses 2/3 cup of fruit for each tray. It makes 3 trays. Write a model, solve, and check. How many cups of fruit are needed? | **(2/3) * 3 = 2; 2 cups of fruit.** |
| 6 | The recycling team puts 40 cans into 5 equal bins. Write a model, solve, and check. How many cans go in each bin? | **40 / 5 = 8; 8 cans in each bin.** |

## PART 2 · APPLY IT

1. **$2 left** Add the earnings: 12 + 9 + 11 = 32. Subtract the item cost: 32 - 30 = 2.
2. **13 batteries, $1 left** Divide 53 by 4 to get 13 remainder 1. Check that 13 * 4 = 52, while 14 * 4 = 56 is too much.

## CHALLENGE

**11 card packs, with $1 left. 5 * 4 + 11 * 9 = 119. One more pack would make the cost 5 * 4 + 12 * 9 = 128, which is more than $120.**

Accept equivalent equations or expressions that correctly represent each situation. Students may show checking with inverse operations, estimation, multiplication, or a comparison to the budget or total.