LESSON MAKER PRO

Rate Right

Use rates, plans, and checks.

GRADE 7 · 7.MP

7.MP "Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback..."

NAME _____ DATE _____

A RELIABLE PLAN

Read for the goal, name the quantities, and choose a plan, such as finding a unit rate or multiplying equal groups. Estimate before you calculate, then use the situation to check whether your answer makes sense and revise it if needed.

WORKED EXAMPLE

A video editor uses 1.5 GB for each of 6 clips. How much storage is used?

1. Plan: multiply clips by GB per clip.
2. 6 x 1.5 = 9.
3. Check: 9 is between 6 x 1 and 6 x 2.

Answer: 9 GB

PRACTICE 5 problems

1 A design club buys 4 sticker sheets with 18 stickers on each sheet. Plan, solve, and check the total number of stickers.

ANSWER _____

2 A photo book has 3 pages with 8 photos on each page. How many photos fit on 7 pages at the same rate? Plan and check.

ANSWER _____

3 A bike ride covers 12 miles in 3 hours at a constant rate. How far will the rider travel in 5 hours? Show a plan and check.

ANSWER _____

4 A player needs 1,030 coins to unlock a game skin and has 280 coins. The player earns 150 coins per level for 5 levels. Will the player have enough coins? Explain with a check.

ANSWER _____

5 A school store charges $40 for 5 hoodies. At the same price per hoodie, what is the cost of 7 hoodies? Plan and check.

ANSWER _____

APPLY IT Show your work

1 The dance committee pays $56 for 8 tickets. At the same price per ticket, how much will 11 tickets cost? Show a plan and check whether your answer is reasonable.

WORK SPACE

ANSWER _____

2 A game rewards 21 gems for 3 completed quests. At the same rate, how many gems will a player earn for 10 quests? Explain your plan and check.

WORK SPACE

ANSWER _____

CHALLENGE One step up

An online art shop sells 15 prints for $4.80 each. A student says the profit is $72 because 15 x $4.80 = $72. The shop paid $18 for supplies. What is the profit? Explain why $72 is not the profit.

WORK SPACE AND ANSWER

ANSWER KEY

Rate Right

GRADE 7 · 7.MP

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A design club buys 4 sticker sheets with 18 stickers on each sheet. Plan, solve, and check the total number of stickers.	**72 stickers**
2	A photo book has 3 pages with 8 photos on each page. How many photos fit on 7 pages at the same rate? Plan and check.	**56 photos**
3	A bike ride covers 12 miles in 3 hours at a constant rate. How far will the rider travel in 5 hours? Show a plan and check.	**20 miles**
4	A player needs 1,030 coins to unlock a game skin and has 280 coins. The player earns 150 coins per level for 5 levels. Will the player have enough coins? Explain with a check.	**Yes, 1,030 coins**
5	A school store charges $40 for 5 hoodies. At the same price per hoodie, what is the cost of 7 hoodies? Plan and check.	**$56**

PART 2 · APPLY IT

1. **$77** Divide $56 by 8 to find $7 per ticket. Then multiply 11 x $7 = $77.
2. **70 gems** Divide 21 by 3 to find 7 gems per quest. Then multiply 7 x 10 = 70.

CHALLENGE

Profit is $54. $72 is revenue, so subtracting the $18 supply cost gives $54.

Accept any correct strategy, including a table, unit rate, equation, or equal-groups model. Students should show a reasonable estimate or situation-based check, and revise work if the check reveals an error.