LESSON MAKER PRO

Smart Math Plans

Use a plan, then prove your answer makes sense.

GRADE 5 · 5.MP

5.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 SMART MATH PLAN

Read for the goal, then decide which operations will help. Write each step and use an estimate or an inverse operation to check whether your answer makes sense. If you get stuck, name the step that is confusing and ask a specific question.

WORKED EXAMPLE

A drama club buys 8 packs of 7 markers. It gives 10 markers to another club. How many markers remain?

1. Plan: multiply, then subtract.
2. 8 * 7 = 56.
3. 56 - 10 = 46.
4. Check: 56 - 10 is about 46.

Answer: 46 markers

PRACTICE 5 problems

1 The library puts 12 new comics in each of 4 bins. Students take 9 comics. Plan, solve, and estimate-check how many comics remain.

ANSWER _____

2 The garden club plants 13 seeds in each of 5 rows. Sixteen seeds do not sprout. Plan, solve, and estimate-check how many plants sprout.

ANSWER _____

3 Two buses bring 24 students each to a museum. Five students leave early. Plan, solve, and estimate-check how many students stay.

ANSWER _____

4 The robotics club shares 45 batteries equally among 5 tables. Each table finds 4 more batteries. Plan, solve, and estimate-check how many batteries each table has.

ANSWER _____

5 A hiker walks 2 1/4 miles before lunch and 1 1/2 miles after lunch. Plan, solve, and estimate-check the total distance.

ANSWER _____

APPLY IT Show your work

1 At a game tournament, 9 teams earn 14 points each in round one. Rule penalties take away 23 points. How many points do the teams have altogether? Show a plan and use an estimate to check.

WORK SPACE

ANSWER _____

2 The art club has 5 1/2 yards of ribbon. It uses 2 3/4 yards for display signs. How much ribbon is left? Show a plan and explain how you checked.

WORK SPACE

ANSWER _____

CHALLENGE One step up

The student council has 125 glow bracelets for 6 equal prize bags. Any leftovers will go to volunteers. Plan, solve, and explain why there are leftovers or no leftovers.

WORK SPACE AND ANSWER

ANSWER KEY # Smart Math Plans

GRADE 5 · 5.MP

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The library puts 12 new comics in each of 4 bins. Students take 9 comics. Plan, solve, and estimate-check how many comics remain.	**39 comics; 4 * 12 = 48, and 48 - 9 = 39. About 40 is reasonable.**
2	The garden club plants 13 seeds in each of 5 rows. Sixteen seeds do not sprout. Plan, solve, and estimate-check how many plants sprout.	**49 plants; 5 * 13 = 65, and 65 - 16 = 49. About 50 is reasonable.**
3	Two buses bring 24 students each to a museum. Five students leave early. Plan, solve, and estimate-check how many students stay.	**43 students; 2 * 24 = 48, and 48 - 5 = 43. About 45 is reasonable.**
4	The robotics club shares 45 batteries equally among 5 tables. Each table finds 4 more batteries. Plan, solve, and estimate-check how many batteries each table has.	**13 batteries per table; 45 / 5 = 9, and 9 + 4 = 13.**
5	A hiker walks 2 1/4 miles before lunch and 1 1/2 miles after lunch. Plan, solve, and estimate-check the total distance.	**3 3/4 miles; 2 1/4 + 1 1/2 = 3 3/4. About 4 miles is reasonable.**

PART 2 · APPLY IT

1. **103 points** Multiply first: 9 * 14 = 126. Then subtract 23, so 126 - 23 = 103; an estimate of 110 points is reasonable.
2. **2 3/4 yards** Rename 5 1/2 as 5 2/4, then subtract: 5 2/4 - 2 3/4 = 2 3/4. The result is close to 5 1/2 - 3, or 2 1/2.

CHALLENGE

20 bracelets in each bag and 5 leftovers, because 6 * 20 = 120 and 125 - 120 = 5.

Accept correct work with a reasonable estimate, inverse check, or clear explanation. Accept equivalent fraction forms, including 15/4 for 3 3/4 and 11/4 for 2 3/4.