

1-6 Problem Solving: Using a Four-Step Plan

pages 11–12

1 Getting Started

Objective

- To use a four-step plan for problem solving

Warm Up • Mental Math

Have students identify the next two numbers in each sequence.

- 2, 4, 6, ... (8, 10)
- 0, 3, 6, ... (9, 12)
- 1, 6, 11, ... (16, 21)
- 20, 15, 10, ... (5, 0)
- 5, 5, 5, ... (5, 5)
- 1, 4, 3, 6, 5, 8, ... (7, 10)
- 1, 2, 4, 7, ... (11, 16)

2 Teach

Introduce the Lesson Explain that for this lesson students will be using a four-step plan to solve problems. Have students look at the page. Ask a volunteer to read the headings for the four steps. (SEE, PLAN, DO, CHECK) Ask another student to explain what these titles mean. (SEE: Read through the problem and the accompanying information to find the numbers needed to do the problem. PLAN: Think about the problem and how the numbers might be used to solve it. DO: Follow the PLAN step and do the computations. CHECK: Work the problem a different way to see if the answer is the same.)

Develop Skills and Concepts Read the problem aloud and have a volunteer identify what students must find. (how much money Luis and Pedro will spend; how much money they will have left)

- Start with the SEE section. Have students find and fill in the price of the planter (\$12) and of the card (\$2); and Luis's savings (\$8) and Pedro's savings (\$7).
- In the PLAN section, ask students to explain how they would calculate the total cost and the money saved. (add \$12 + \$2; add \$8 and \$7)
- In the DO section, ask students to calculate the total cost of the items Luis and Pedro want to buy and the boys' total savings. (\$14, \$15) Point out that in the next section students must calculate the money left over. (\$15 - \$14 = \$1)

Name _____

Problem Solving: Use a Four-Step Plan

Luis and Pedro decide to buy a planter and a card for their parents' anniversary. Luis has saved \$8 and Pedro has saved \$7. How much will they spend? How much money will they have left?

★ SEE

A planter costs \$12. A card costs \$2.

Luis has saved \$8. Pedro has saved \$7.

We need to find
 the total cost of a planter and card,
 the combined savings of the two boys,
 the difference between these two amounts.

★ PLAN

To find how much the planter and card cost together, we add \$12 and \$2.

To find out how much money the boys saved, we add \$8 and \$7. To find the amount they have left, we subtract their total costs from the amount of money they saved.

★ DO

$$\begin{array}{r} \$8 \\ + 7 \\ \hline \$15 \end{array} \quad \begin{array}{r} \$12 \\ + 2 \\ \hline \$14 \end{array} \quad \begin{array}{r} \$15 \\ - 14 \\ \hline \$1 \end{array}$$

The boys will spend \$14 and have \$1 left over.

★ CHECK

$$\begin{array}{r} \$14 \\ + 1 \\ \hline \$15 \end{array}$$

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Lesson 1-6 • Problem Solving: Use a Four-Step Plan

eleven 11



- Explain that to check, they will add the total cost to the amount left over. Ask one student to explain what this sum should equal. (\$15; the boys' total savings) Have students complete this section in their books.

3 Apply

Solution Notes

- Students may add to find the total number of Nathan's stamps and subtract that from the number the book will hold. ($6 + 3 = 9$, $18 - 9 = 9$) Some may see that, starting with the number of stamps the book holds, they can subtract the number Nathan has to begin with, then the number he receives.
- Point out that to find the total number of crackers Sharon has, they can add ($6 + 6$) or multiply (6×2), before they subtract.
- See that students first calculate the number of different-sized boxes they will need. (two 4 oz and