

Step • by • Step Word Problems

Grades 3-4

REM 1129B

WRITTEN BY: Sue LaRoy, Marcella Acosta
EDITED BY: Becky Majewski
GRAPHIC DESIGN AND LAYOUT BY: Ron Wolf
COVER DESIGN BY: Steve Ruttner

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ABOUT THIS BOOK

Step•by•Step Word Problems is designed to give students a strategy for understanding and solving word problems.

There are three levels of practice for the word problems in this book. As the levels progress, they challenge students to apply the skills they learned in previous levels while learning new ones. This process will help students master problem solving.

The first level – pages 2-8 – introduces students to the Step•by•Step Solution. Problems are presented in a template format that easily guides students through this six-step process. Page 2 gives an example of how to use the template to solve a one-step problem. Page 3 is a student practice page. Page 4 gives an example of how to use the template to solve a two-step problem. Page 5 is a student practice page. The example pages can be reproduced as overhead transparencies for an in-class presentation of the steps. Pages 6 and 7 offer students the opportunity to write their own word problems using the information given in the boxes. Page 8 is a blank template that can be reproduced and filled in by the teacher to complement specific lesson plans.

The second level – pages 9-24 – shows the basic, practical application of the solution for one-step word problems. Students will cross out any sentences that are not needed to solve the problem, underline the facts, and highlight the question. Then, they will write the operation and equation in the appropriate places. After solving the problem, they will write the answer in a sentence on the lines provided, and think about whether or not it makes sense. There is an example of how to do the problems in this level on page 9. This section features addition, subtraction, multiplication, and division word problems using one, two, and three-digit numbers.

Skills include: computation with regrouping, column addition, money, time, and measurement.

The third level – pages 25-38 – applies the solution to two-step word problems. Students will read each word problem and identify which two operations are used. They will write the math symbol for those operations on the lines provided and solve. There is an example of how to do the problems in this level on page 25. This section features addition, subtraction, multiplication, and division word problems using up to four-digit numbers.

Skills include: computation with regrouping, column addition, money, time, and measurement.

BONUS PAGES

The last 6 pages offer students two different ways to apply the skills they have learned on the previous pages. On pages 39 and 40, they will be asked to determine if enough information has been provided to solve the problem. If there is enough information, students will solve the problem and write the answer in a sentence. Pages 41 – 44 give students the chance to write their own word problems. Applying the skills developed in completing the previous activity pages, students will write a word problem using the information given.

SOLVING WORD PROBLEMS *Step • by • Step • • •*

Many students have difficulty mastering word problems. This solution helps students break apart a word problem into six easy-to-follow steps. In following them, students will learn to focus on the information and sequence that is helpful to solving the problem.

STEP • BY • STEP SOLUTION

1. Write or underline the facts.

Before doing this step, students should carefully read the problem and cross out any sentences with unnecessary information. Then, they must determine which facts give them the information they need to solve the problem.

Fact Example: *The bleachers had 285 seats.*
There were 178 fans in the bleachers.

Students may write or underline the entire fact sentence, or condense the facts down to a few words.

2. Write or highlight the question.

Focusing on the question will give clues as to what operation or operations should be used to solve the problem. Some of the questions include key words that will help determine the operation. Other questions don't use key words and will require students to use different clues to determine the operation.

3. Write the operation or operations.

Focusing on this step allows students to use the information gathered in the first 2 steps to make their decision about the operation or operations needed to solve the problem and then move on to the next step.

4. Write the equation or equations.

This important step is a result of determining the operation and using the information from the facts. Writing the equation says: "I know how to do this problem." If it is a two-step problem, students will need to solve the first equation, then use the answer to write the second equation.

5. Solve the problem.

This is the computation part of the process. Students will solve for the answer. In a two-step problem, solving the second equation solves the problem.

6. Write your answer in a sentence. Does it make sense?

Writing the answer in a sentence helps to reinforce the problem-solving process. Asking students to think about whether or not the answer "makes sense" helps them check the answer and see it in the context of the problem.

Repeating these steps over and over throughout the book will give students the practice they need to develop an effective strategy for solving word problems.

SOLVING WORD PROBLEMS *Step • by • Step • • •*

Read the word problem below. Cross out any sentences that are not needed to solve the problem. Follow the steps to see how to solve the problem.

PROBLEM: *Manuel is a whiz at science. He scored 128 points on his science test. He missed 2 English classes last week. When he took his English test, he only scored 85 points. How much better was his score on the science test?*

STEP • BY • STEP SOLUTION	
1. Write the facts.	<p>He scored 128 points on his science test.</p> <p>He scored 85 points on his English test.</p>
2. Write the question.	How much better was his score on the science test?
3. Write the operation.	Subtract
4. Write the equation.	$\begin{array}{r} 128 \\ - 85 \\ \hline \end{array}$
5. Solve the problem.	$\begin{array}{r} 128 \\ - 85 \\ \hline 43 \end{array}$
6. Write your answer in a sentence. Does it make sense?	His score was 43 points better.



Read the word problem below. Cross out any sentences that are not needed to solve the problem. Follow the steps to solve the problem.

PROBLEM: *Polly plants new flowers in her garden every spring. It took her 58 minutes to plant the roses. She spent 25 minutes planting daises, and 47 minutes planting sunflowers. How much time did she spend planting roses and sunflowers?*

STEP • BY • STEP SOLUTION	
1. Write the facts.	
2. Write the question.	
3. Write the operation.	
4. Write the equation.	
5. Solve the problem.	
6. Write your answer in a sentence. Does it make sense?	

SOLVING WORD PROBLEMS *Step • by • Step • • •*

Read the word problem below. Cross out any sentences that are not needed to solve the problem. Follow the steps to see how to solve the problem.

PROBLEM: *The Walton family reunion was being held at Blue Lake. People were coming from all over the country. 75 people were going to fly into town, 38 people were going to take the train, and 67 people were going to drive. Two days before the reunion, 16 of these people got sick and couldn't go. How many people made it to the reunion?*

STEP • BY • STEP SOLUTION	
1. Write the facts.	<p>75 people were flying into town. 38 people were taking the train. 67 people were driving. 16 people got sick and couldn't go.</p>
2. Write the question.	How many people made it to the reunion?
3. Write the operations. (−, +, ×, ÷)	<div>+</div> <div>−</div>
4. Write the equations. Solve the first equation. Write the second one.	<div> 75 38 + 67 180 </div> <div> 180 − 16 164 </div>
5. Solve the second equation to solve the problem.	<div> 180 − 16 164 </div>
6. Write your answer in a sentence. Does it make sense?	164 people made it to the reunion.



Read the word problem below. Cross out any sentences that are not needed to solve the problem. Follow the steps to solve the problem.

PROBLEM: *The mailman delivers mail to the Miller's house between 2 and 4 p.m. every day. Today, he had 26 letters in his mailbag when he came to the Miller's door. He left 6 letters and picked up 11 more. How many letters did the mailman have after visiting the Miller's house?*

STEP • BY • STEP SOLUTION	
1. Write the facts.	
2. Write the question.	
3. Write the operations. (−, +, ×, ÷)	
4. Write the equations. Solve the first equation. Write the second one.	
5. Solve the second equation to solve the problem.	
6. Write your answer in a sentence. Does it make sense?	