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Maths the Write Way, Level 6, was written by Brian E. Enright, Robert Gyles, Maxine Leonescu and Fred I. Remer.

HAWKER BROWNLOW
E D U C A T I O N

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★ TO THE STUDENT ★

To solve maths problems, you usually follow a set of rules. You can probably remember the rules easily, but do you know why the rules were made in the first place? *How* you solve problems is what this program is about. Instead of just finding answers, you will think about the strategies you use to solve problems. You will also discover why rules are important.

The focus of ***Maths the Write Way*** is communication. Writing, speaking, explaining or drawing while learning about maths can help you better understand what you are learning. When you share ideas with others, you strengthen what you already know and find out about different ways of thinking. All of these activities will give you a more complete understanding of maths concepts.

You will use the following effective strategies as you complete the activities in ***Maths the Write Way***:

- ★ Write your own problems
- ★ Communicate orally
- ★ Identify key words and explain their importance
- ★ Create your own game, puzzle, picture, poem or rap
- ★ Summarise your work
- ★ Investigate to find other ways to solve a problem
- ★ Make predictions and draw conclusions
- ★ Work with a group to share ideas and solve problems

Each lesson in ***Maths the Write Way*** includes four Investigations, two Extensions and four Assessments. There are many hints to help you solve the problems. Whenever possible, discuss your ideas with classmates and with your teacher. It is important that you think about how you solve a problem, not just about the final solution.

You should be familiar with most of the skills and concepts presented in this book. However, when you work on the activities, you will likely discover new ideas that you have not thought about before. We hope you enjoy the program and learn about maths the 'write' way.

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★ INVESTIGATION 1 ★

Trains are an important form of transportation used by millions of people around the world. There are many expenses involved in operating railway systems in different cities.

Step 1: Look at the chart below.

1994 Railway Operating Expenses (in dollars)

City	Operating Expenses	To Nearest Hundred Thousand
Melbourne	299,381	300,000
Sydney	119,560	100,000
Brisbane	334,749	300,000
Adelaide	210,514	200,000
Perth	180,676	200,000
Hobart	2,243,408	2,200,000

Step 2: Using the chart, write a general rule that will show how to round any number to the nearest hundred thousand.

Hint: Which numbers in the chart are rounded up? Which are rounded down?

Solution:

★ INVESTIGATION 2 ★

Step 1: Look at the number sentences below.

Number

$$465,026 = 400,000 + 60,000 + 5,000 + 20 + 6$$

$$465,026 = (4 \times 100,000) + (6 \times 10,000) + (5 \times 1,000) + (2 \times 10) + (6 \times 1)$$

Step 2: Imagine that you are a maths teacher. Write a brief explanation of the meaning and purpose of expanded notation.

Hint: Think about how expanded notation relates to each digit in a number.

Solution:

★ EXTENSION ★

Use the facts in the chart for Investigation 1 to write your own two-step word problem. Have a group member solve your problem.

Hint: Solve the problem yourself to be sure it works.

Solution:

Assessment 1

Which of these represents the following expression in standard form?

$$500,000 + 6,000 + 50 + 9$$

- A. 506,590
- B. 5,659
- C. 560,059
- D. 506,059

Assessment 2

Rounded to the nearest hundred thousand, the population of Kingsville is 400,000. What range of numbers shows what the actual population might be? Write an explanation of how you determined your answer.

Solution:
