Reading, writing and partitioning numbers

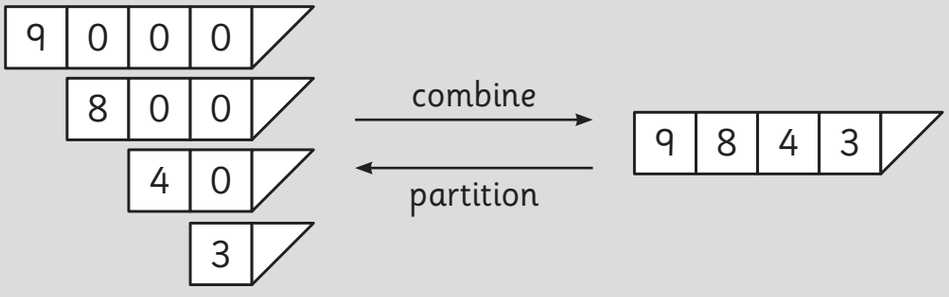
Vocabulary
thousand, ten thousand, digit, partition, place value

Remember

Whole numbers from 1000 to 9999 have four **digits**.
The **position** of a digit in a number gives its **value**.

Th	H	T	U
9	8	4	3

Read as nine thousand, eight hundred and forty-three



9843 = 9000 + 800 + 40 + 3

The number that is one more than 9999 is 10 000 (ten thousand).

1 Missing numbers

Hint: These numbers are written in expanded form, in thousands, hundreds, tens and units.

Write the missing numbers.

6742 = 6000 + 700 + ☐ + 2

6359 = ☐ + ☐ + ☐ + ☐

5419 = 5000 + ☐ + ☐ + ☐

3278 = ☐ + ☐ + ☐ + ☐

1234 = ☐ + ☐ + ☐ + 4

3507 = ☐ + ☐ + ☐ + ☐

Unit 1A: Number and problem solving
CPM framework 4Nn1, 4Nn3; Teacher's Resource 1.1

2 Think of a number

Marina is thinking of a four-digit number.
She says:

'It has a 2 in the hundreds place and in the units place.'

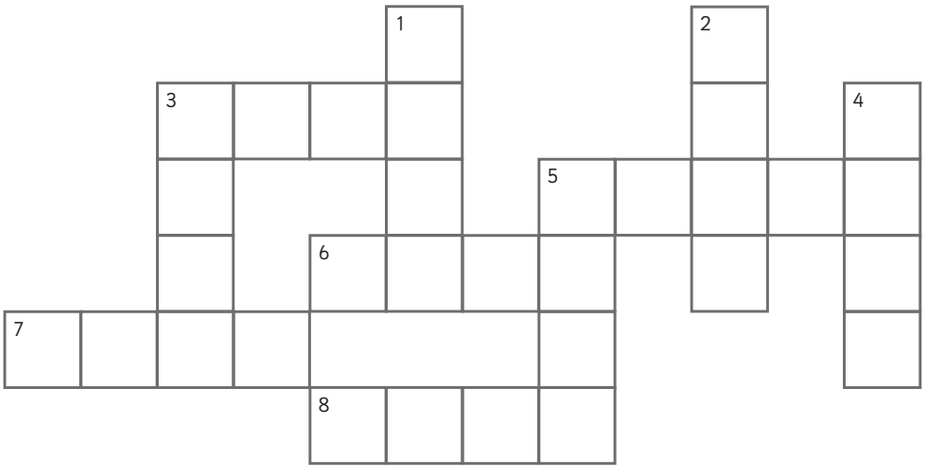
'It has a 5 in the thousands place and in the tens place.'

What is Marina's number?

Hint: It may help if you label the columns Th H T U.

3 Cross-number puzzle

Complete the cross-number puzzle.
Then make a puzzle for someone else to try.



Across

3 nine thousand, nine hundred

5 ten thousand

6 six thousand, four hundred and thirty-nine

7 one thousand, three hundred and forty-eight

8 nine thousand, one hundred and nineteen

Down

1 seven thousand and four

2 six thousand, one hundred and nine

3 nine thousand and sixty-four

4 six thousand and fifty-eight

5 one thousand, nine hundred and nine

4 Place values

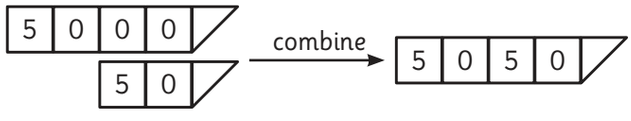
What number is shown on the place-value chart?

1000	2000	3000	4000	5000	6000	7000	8000	9000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

Write the number in figures. _____

Write the number in words. _____

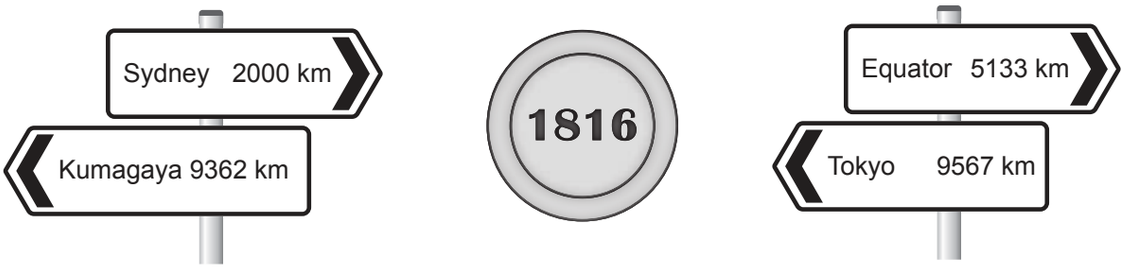
Hint: Remember to use **zero** as a place-holder for the hundreds and units. You could use arrow cards for 5000 and 50 and then combine them to make the number.



5 Numbers all around us: an activity to keep coming back to

Write these numbers in words. Read each number to a friend.

Find examples of numbers around you. You could start a scrapbook of examples.



Find examples of numbers around you. You could start a scrapbook of examples.

Hint: Practise saying big numbers correctly and not just saying the digits in order. 5793 is five thousand, seven hundred and ninety-three, not 'five, seven, nine, three'.

Ordering, rounding and comparing four-digit numbers

Remember

When **ordering numbers**, compare each digit starting with the digit of greatest place value.

For example, to order the numbers:

5005 550 5505 50:

	Th	H	T	U
largest →	5	5	0	5
	5	0	0	5
		5	5	0
smallest →			5	0

When **comparing numbers**,

< means 'is less than', for example, 5005 < 5505

> means 'is greater than', for example, 5505 > 5005

When **rounding numbers** to the nearest 10, look at the units digit, so 236**4** rounds down to 2360

When rounding to the nearest 100 look at the tens digit, so 23**6**4 rounds up to 2400

You will need: a 10-sided dice or resource 1, page 76 for activity 3, 0–9 digit cards from resource 2, page 77 for activity 6

Vocabulary
greater than >, less than <, round

1 Ordering numbers

Write these numbers in order, starting with the smallest.

(a) 650 6005 6500 560 65

_____ _____ _____ _____ _____

(b) 898 8009 9008 989 8899

_____ _____ _____ _____ _____

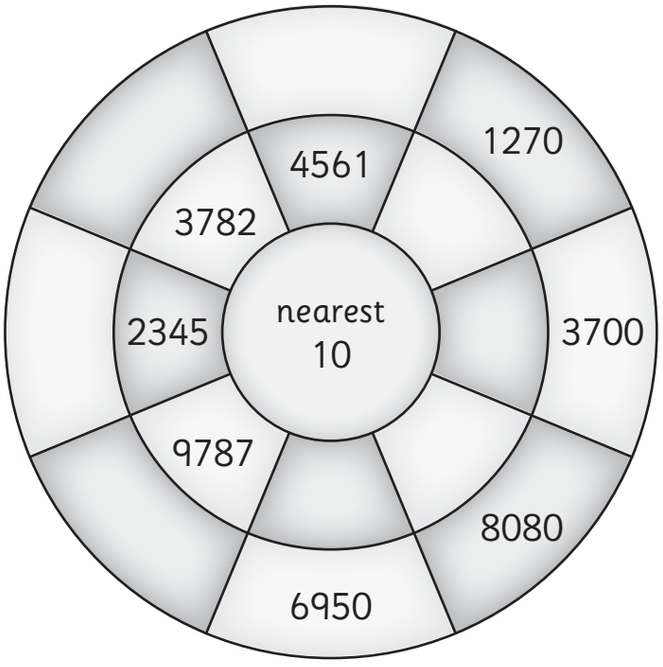
Hint: It will help if you write the numbers in a column, lining up the units.

650
6005

2 Rounding numbers

Complete the dartboard. The numbers in the inner ring are rounded to the nearest 10 to give the numbers in the outer ring.

Hint: There are several options for the inner circle answers!



3 Smallest and largest

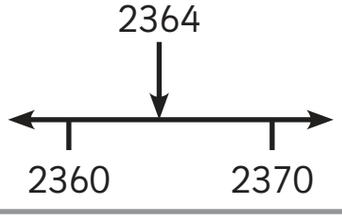
Roll the dice (or spin the 0–9 spinner) four times and record the four digits. Make the smallest number and the largest number, then round these numbers to the nearest 10 and 100.

The digits rolled are:

	smallest number	largest number
Rounded to the nearest 10		
Rounded to the nearest 100		

You could play against a partner. Take turns to roll the dice (or spin the spinner) four times. Record the digits in the table then independently find the answers. When you have both finished, compare your results. If necessary, agree on the correct answer.

Hint: It might help to think of the target number on a number line, for example, when rounding 2364 to the nearest 10, you can see that it lies between 2360 and 2370 but is closer to 2360.



Unit 1A: Number and problem solving, 1.2 Ordering, comparing and rounding four-digit numbers; CPM framework 4Nn9, 4Nn10, 4Nn12, 4Pt8

4 Fill the boxes

Which whole numbers could go in the empty boxes?
Write them on the lines below.

1234 < ☐ < 1243

_____

5678 < ☐ < 5674

_____

Hint: If you find it difficult to remember what the signs mean, imagine a huge mouth opening towards the bigger meal.

5 Use the digits 3, 5, 8 and 9.

Make as many different four-digit numbers between 3000 and 4000 as you can.

Write your numbers in order, starting with the smallest.

_____

Hint: Record your answers systematically.
This helps you check you have found all the numbers.

6 More or less – a game for two players

Shuffle the cards and place them face down.
Players each choose one of the inequalities below.

Player 1 ☐☐ < ☐☐

Player 2 ☐☐ < ☐☐

Take turns to choose a card and place it anywhere on your inequality.
Players try to win by making their number line true and their partner's line false.
The winner scores 1 point. Play 5 times to find the overall winner.

Multiplying and dividing by 10 and 100

Remember

When you **multiply a number by 10**, the digits move one place to the left.

When you **multiply a number by 100**, the digits move two places to the left.

When you **divide a number by 10**, the digits move one place to the right.

You will need: resource 1, page 76 for activity 3 and resource 3, page 78 for activity 4

Multiplication

79 × 10 = 790

H	T	U
	7	9
7	9	0

79 × 100 = 7900

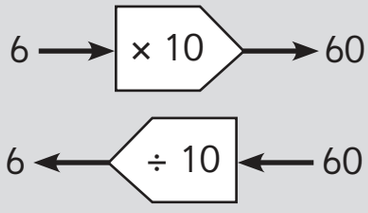
Th	H	T	U
		7	9
7	9	0	0

Division

790 ÷ 10 = 79

H	T	U
7	9	0
	7	9

Multiplication and division are **inverse operations**.



1 Multiply and divide

Complete these calculations.

35 × 100 = ☐

☐ × 10 = 650

17 × 100 = ☐

350 ÷ 10 = ☐

☐ × 10 = 3500

900 ÷ 10 = ☐

Hint: Use a place-value grid to help you. Draw arrows to show the digits moving to the left and right.

Unit 1A: Number and problem solving, 1.3 Multiplying and dividing by 10 and 100; CPM framework 4Nn7, 4Nc15, 4Nc25, 4Pt6

2 Find at least 8 pairs of numbers where one number is ten times the other.

40	800	91	33	130	999
501	150	300	1	51	70
60	17	90	909	190	303
7	901	13	710	110	15
707	11	404	4	400	14
19	200	9	101	41	10

Complete the calculations.

13 and 130 has been done for you.

13	× 10 =	130	and	130	÷ 10 =	13
	× 10 =		and		÷ 10 =	
	× 10 =		and		÷ 10 =	
	× 10 =		and		÷ 10 =	
	× 10 =		and		÷ 10 =	
	× 10 =		and		÷ 10 =	
	× 10 =		and		÷ 10 =	
	× 10 =		and		÷ 10 =	

3 First past 1000 – a game for two players

Use the spinners from resource 1. Take turns to spin a number from 0–9 and an operation, for example, 6 and × 10. Work out the result. That is your score for the round.

Each player keeps a running total of their scores.
The first past 500 is the winner.

4 Multiply and divide by 10

Cut out the 12 pieces of the jigsaw from resource 3.

Put the jigsaw together by matching each calculation to its answer.