Power Maths

White Rose Maths

White Rose Maths Edition

Year 5 Textbook 5A

Pearson

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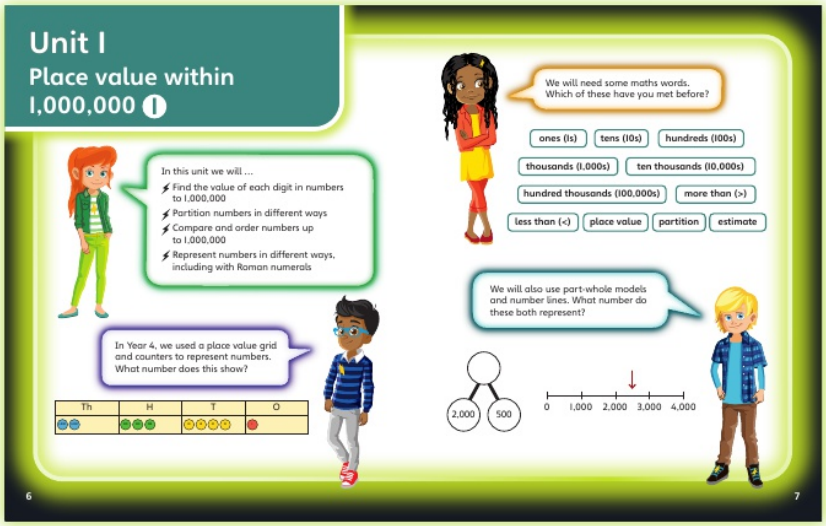
Pearson

Contents

How to use this book

These pages make sure we're ready for the unit ahead. Find out what we'll be learning and brush up on your skills!

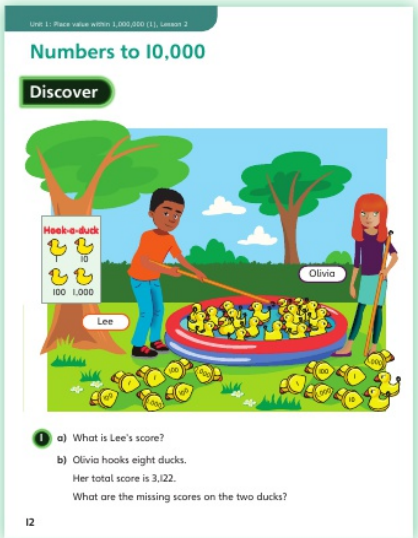


Discover

Lessons start with **Discover**.

Here, we explore new maths problems.

Can you work out how to find the answer?

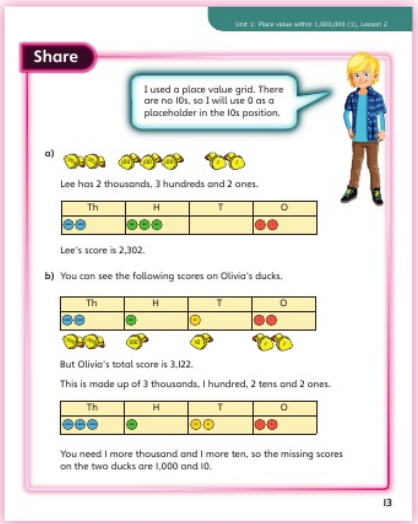


Don't be afraid to make mistakes. Learn from them and try again!

Share

Next, we share our ideas with the class.

Did we all solve the problems the same way? What ideas can you try?


Share

I used a place value grid. There are no 10s, so I will use 0 as a placeholder in the 10s position.

a)

Lee has 2 thousands, 3 hundreds and 2 ones.

Th	H	T	O
●●	●●●		●●

Lee's score is 2,302.

b) You can see the following scores on Olivia's ducks.

Th	H	T	O
●●	●	●	●●

But Olivia's total score is 3,122.

This is made up of 3 thousands, 1 hundred, 2 tens and 2 ones.

Th	H	T	O
●●●	●	●●	●●

You need 1 more thousand and 1 more ten, so the missing scores on the two ducks are 1,000 and 10.

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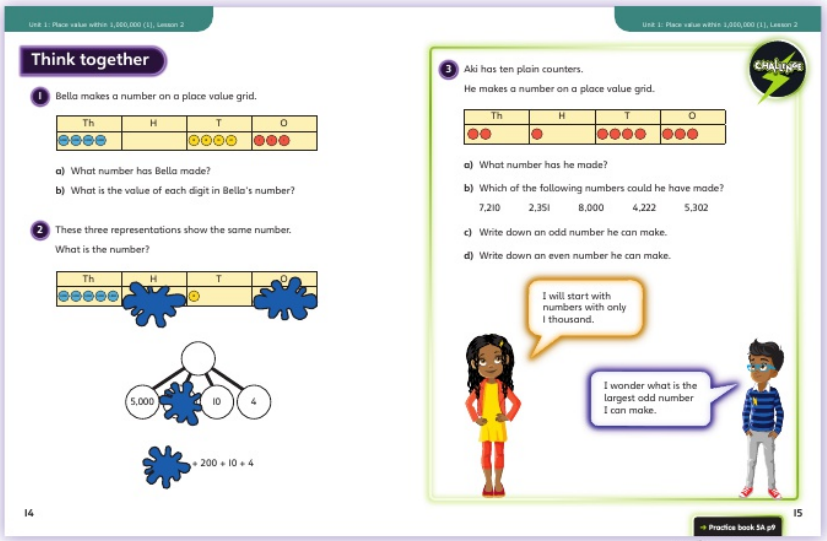
Think together

Then we have a go at some more problems together. Use what you have just learnt to help you.

We'll try a challenge too!


Think together

1 Bella makes a number on a place value grid.

Th	H	T	O
●●●●		●●●●	●●●

a) What number has Bella made?

b) What is the value of each digit in Bella's number?

2 These three representations show the same number.

What is the number?

Th	H	T	O
●●●●●	●	●	●

5,000 | 10 | 4

+ 200 + 10 + 4

14

3 Aki has ten plain counters.

He makes a number on a place value grid.

Th	H	T	O
●●	●	●●●●	●●●

a) What number has he made?

b) Which of the following numbers could he have made?

7,210 2,351 8,000 4,222 5,302

c) Write down an odd number he can make.

d) Write down an even number he can make.

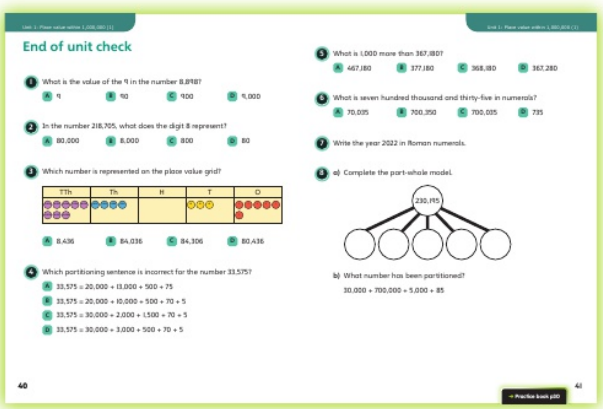
I will start with numbers with only 1 thousand.

I wonder what is the largest odd number I can make.

15

→ Practice book 5A p9

This tells you which page to go to in your **Practice Book**.


End of unit check

1 What is the value of the 9 in the number 8,898?

A 9 B 90 C 900 D 9,000

2 In the number 218,705, what does the digit 8 represent?

A 80,000 B 8,000 C 800 D 80

3 Which number is represented on the place value grid?

TTh	Th	H	T	O
●●●●●	●●●●		●●●	●●●●●

A 8,436 B 84,036 C 84,306 D 80,436

4 Which partitioning sentence is incorrect for the number 33,575?

A 33,575 = 20,000 + 13,000 + 500 + 75

B 33,575 = 20,000 + 10,000 + 500 + 70 + 5

C 33,575 = 30,000 + 2,000 + 1,500 + 70 + 5

D 33,575 = 30,000 + 3,000 + 500 + 70 + 5

5 What is 1,000 more than 367,180?

A 467,180 B 377,180 C 368,180 D 367,280

6 What is seven hundred thousand and thirty-five in numerals?

A 70,035 B 700,350 C 700,035 D 735

7 Write the year 2022 in Roman numerals.

8 a) Complete the part-whole model.

230,195

b) What number has been partitioned?

30,000 + 700,000 + 5,000 + 85

40

41

→ Practice book p20

At the end of each unit there's an **End of unit check**. This is our chance to show how much we have learnt.

Unit 1

Place value within 1,000,000

In this unit we will ...

- Find the value of each digit in numbers to 1,000,000
- Partition numbers in different ways
- Compare and order numbers up to 1,000,000
- Represent numbers in different ways, including with Roman numerals

In Year 4, we used a place value grid and counters to represent numbers. What number does this show?

Th	H	T	O
1,000 1,000	100 100 100	10 10 10 10	1

We will need some maths words.
Which of these have you met before?

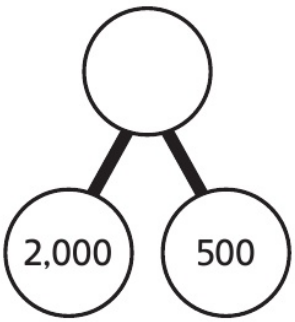
ones (1s) | tens (10s) | hundreds (100s)

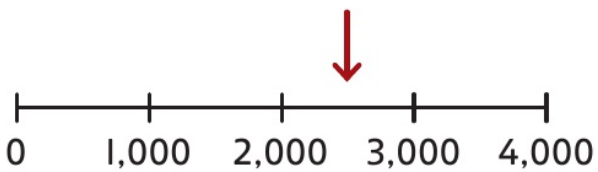
thousands (1,000s) | ten thousands (10,000s)

hundred thousands (100,000s) | more than (>)

less than (<) | place value | partition | estimate

We will also use part-whole models and number lines. What number do these both represent?





Roman numerals

Discover

1	I	11	XI	30	XXX
2	II	12	XII	40	XL
3	III	13	XIII	50	L
4	IV	14	XIV	60	LX
5	V	15	XV	70	LXX
6	VI	16	XVI	80	LXXX
7	VII	17	XVII	90	XC
8	VIII	18	XVIII	100	C
9	IX	19	XIX	500	D
10	X	20	XX	1,000	M

1 **a)** Look at the Roman numeral chart.
Write the numbers 4, 9, 14 and 19.

b) What numbers have Ebo and Jamie made in Roman numerals?

Share

a) The numbers 4, 9, 14 and 19 have I before a larger number in the Roman numerals.

IV means I before 5, which is 4.

IX means I before 10, which is 9.

XIV means 10 plus 4, which is 14.

XIV = X + IV = 14

10 4

XIX means 10 plus 9, which is 19.

XIX = X + IX = 19

10 9

We read Roman numerals from left to right. When there is a smaller number in front of a larger number, we subtract the smaller number from the larger one.

b) Ebo's Roman numerals are MDCXC.

XC means 100 – 10 = 90.

So MDCXC means 1,000 + 500 + 100 + 90.

M D C XC

Ebo's Roman numerals represent the number 1,690.

Jamie's Roman numerals are LXXV.

LXXV means 50 + 10 + 10 + 5.

L X X V

Jamie's Roman numerals represent the number 75.

Think together

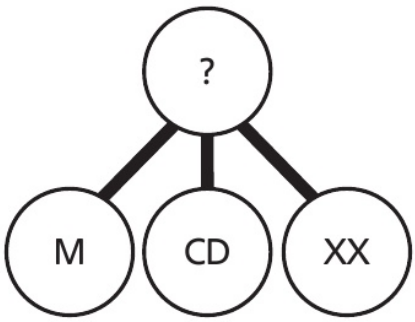
1 What is the same and what is different about these numbers?

CX

XC

2 The part-whole model represents Zac's number in Roman numerals.

What is Zac's number?



M means ☐

CD means ☐ − ☐ = ☐

XX means ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

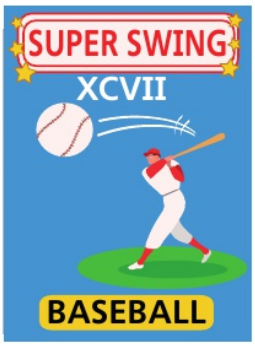
M CD XX

Zac's number is ☐.

CHALLENGE

3 Complete the number sentences.

a)



XCVII means number ☐.

b)

MMIX means number ☐.

I will write the year I was born in Roman numerals!

c)

450 in Roman numerals is ☐.

d)

1791 in Roman numerals is ☐.

→ Practice book 5A p6

Numbers to 10,000

Discover

1 **a)** What is Lee's score?

b) Olivia hooks eight ducks.

Her total score is 3,122.

What are the missing scores on the two ducks?

Share

I used a place value grid. There are no 10s, so I will use 0 as a placeholder in the 10s position.

a) 

Lee has 2 thousands, 3 hundreds and 2 ones.

Th	H	T	O
1,000 1,000	100 100 100		1 1

Lee's score is 2,302.

b) You can see the following scores on Olivia's ducks.

Th	H	T	O
1,000 1,000	100	10	1 1

But Olivia's total score is 3,122.

This is made up of 3 thousands, 1 hundred, 2 tens and 2 ones.

Th	H	T	O
1,000 1,000 1,000	100	10 10	1 1

You need 1 more thousand and 1 more ten, so the missing scores on the two ducks are 1,000 and 10.

Think together

1 Bella makes a number on a place value grid.

Th	H	T	O
1,000 1,000 1,000 1,000		10 10 10 10	1 1 1

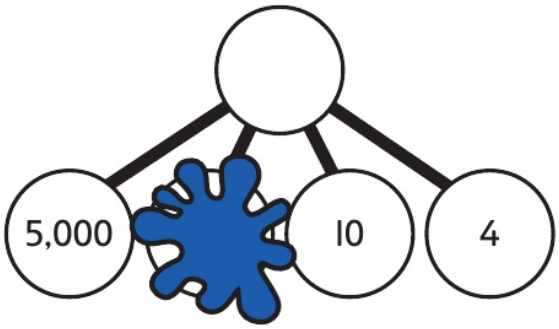
a) What number has Bella made?

b) What is the value of each digit in Bella's number?

2 These three representations show the same number.

What is the number?

Th	H	T	O
1,000 1,000 1,000 1,000 1,000		10	



+ 200 + 10 + 4

CHALLENGE

3 Aki has ten plain counters.

He makes a number on a place value grid.

Th	H	T	O
●●	●	●●●●	●●●

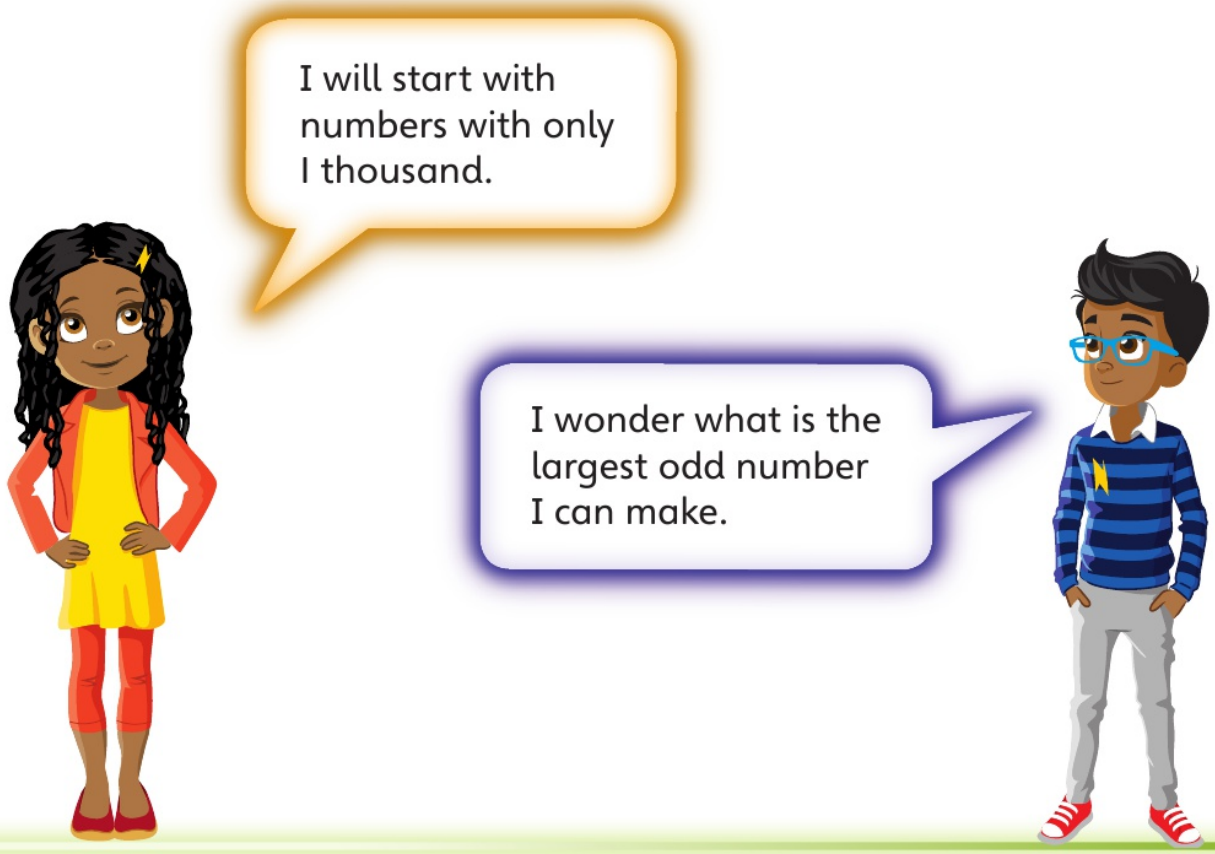
a) What number has he made?

b) Which of the following numbers could he have made?

7,210 2,351 8,000 4,222 5,302

c) Write down an odd number he can make.

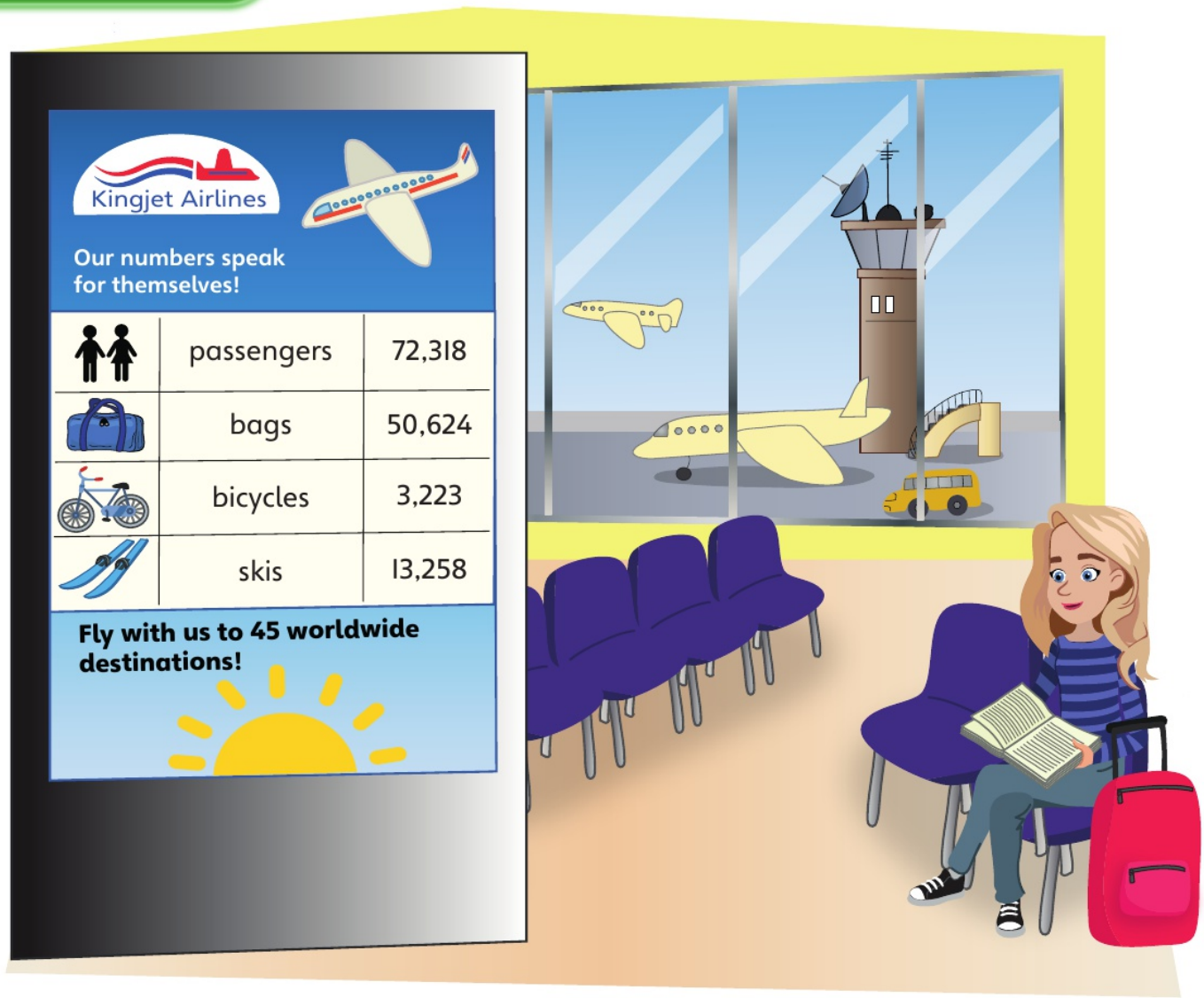
d) Write down an even number he can make.



→ Practice book 5A p9

Numbers to 100,000

Discover



1 **a)** Make the number of passengers on a place value grid.
What does the digit 7 represent?

b) Represent the number of passengers on a part-whole model.
Now write the number of passengers in words.

Share

a) 72,318 passengers flew with the airline.

I started by representing the number on a place value grid. Then I could see which column the 7 was in.

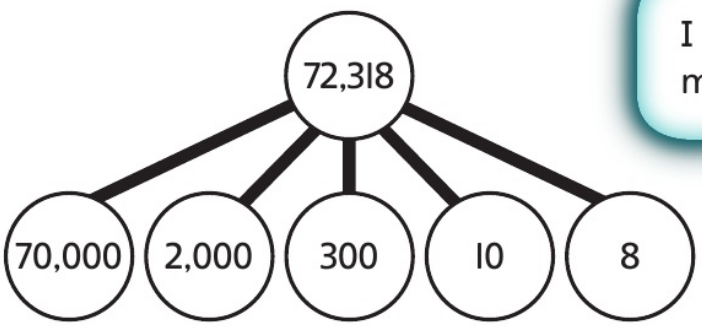
TTh	Th	H	T	O
10,000 10,000 10,000 10,000 10,000 10,000 10,000	1,000 1,000	100 100 100	10	1 1 1 1 1 1 1 1

TTh stands for **ten thousands**.

The digit 7 is in the ten thousands position.

The digit 7 represents 7 ten thousands or 70,000.

b) The airline had 72,318 passengers.



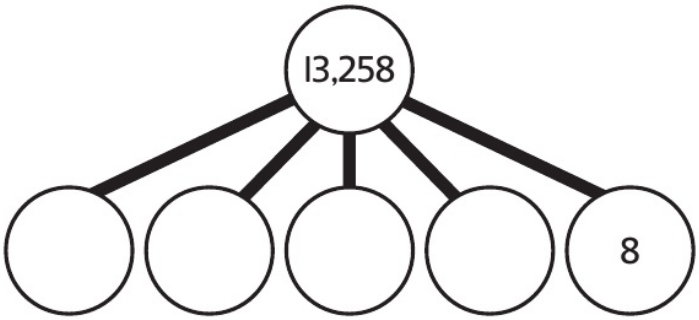
I drew a part-whole model with five parts.

In words, this is seventy-two thousand, three hundred and eighteen.

Think together

1 **a)** Represent the number of skis on a part-whole model.

	passengers	72,318
	bags	50,624
	bicycles	3,223
	skis	13,258



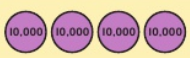
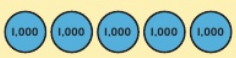
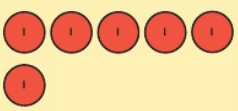
b) Represent the number of skis on a place value grid.

TTh	Th	H	T	O

Say the number and write it in words.

What is the value of the digit 3?

2 This place value grid represents a number.

TTh	Th	H	T	O
				

a) What is the number?

b) What is the value of each digit in the number?

c) Write the number in words.

CHALLENGE

3 **a)** The number 43,245 is represented on this place value grid.

TTh	Th	H	T	O
10,000 10,000 10,000 10,000	1,000 1,000 1,000	100 100	10 10 10 10	1 1 1 1 1

Partition the number in different ways.

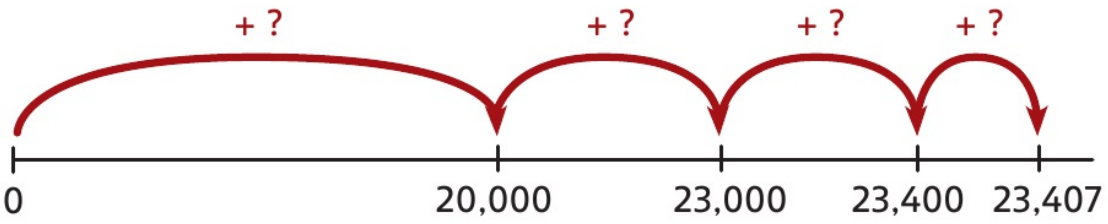
43,245 = ☐ + 3,000 + ☐ + ☐ + 5

43,245 = ☐ + 10,000 + ☐ + ☐ + 40 + ☐

43,245 = 43,000 + 200 + ☐

b) This number line shows how 23,407 is partitioned.

Write the matching addition sentence.

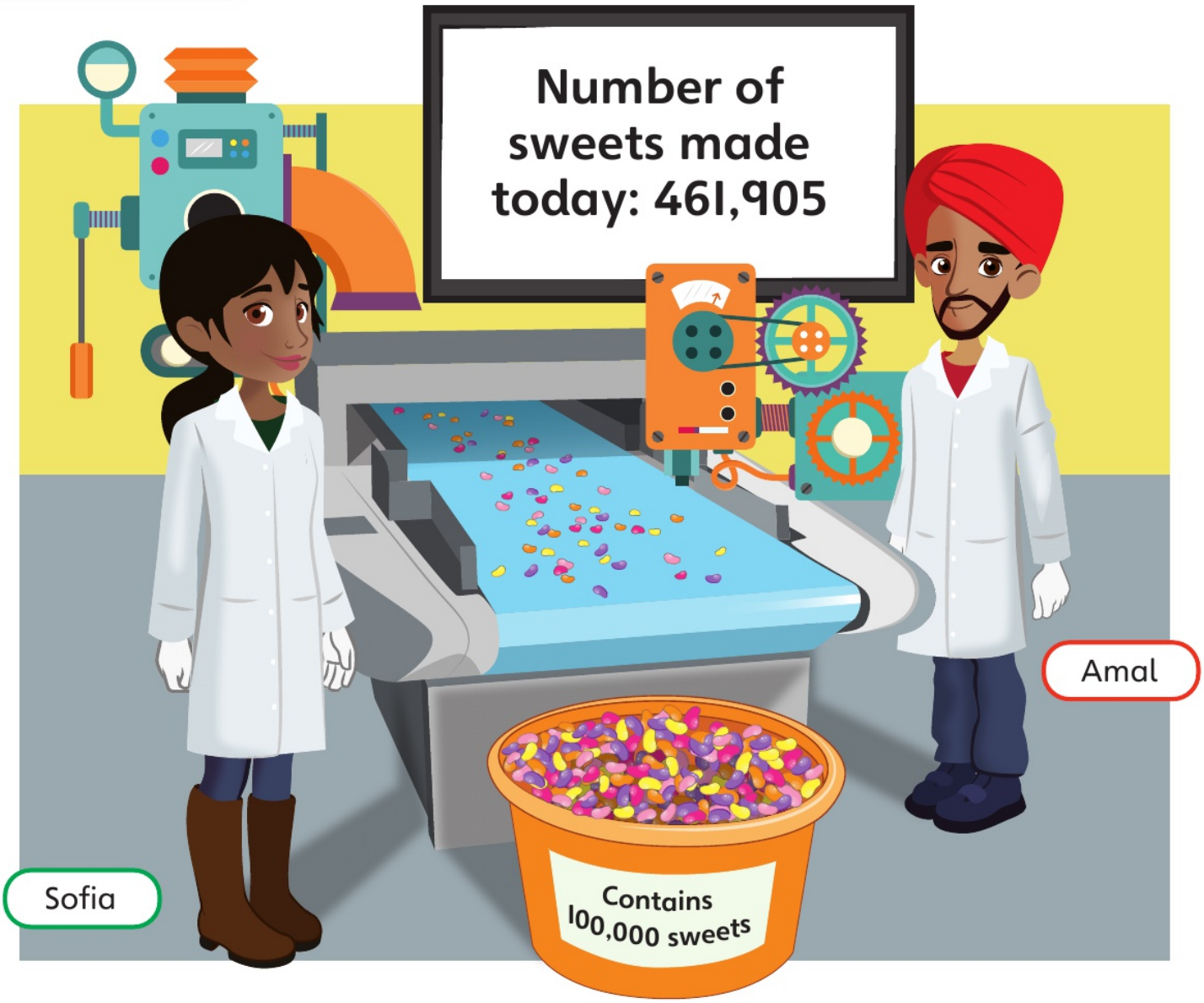


23,407 = ☐ + ☐ + ☐ + ☐

→ Practice book 5A p12

Numbers to 1,000,000

Discover



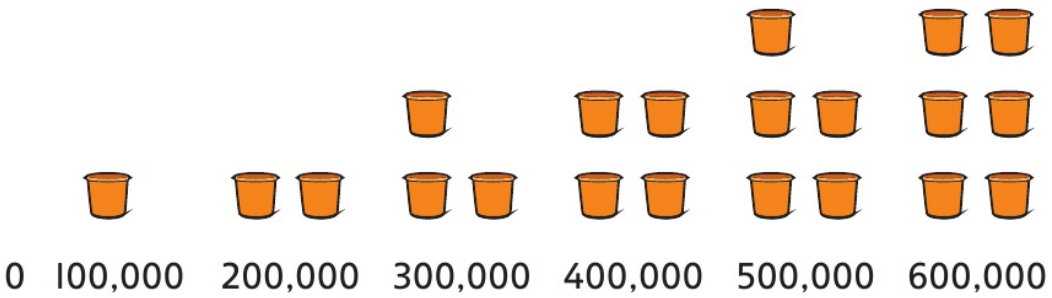
1 **a)** How many sweets can six containers hold?

b) How many sweets have been made today?
What does each digit in the number represent?

Share

a) Six containers can hold 600,000 sweets.

Each container holds 100,000 sweets.
I counted up in 100,000s.



b) The board says that 461,905 sweets have been made today.

HTh	TTh	Th	H	T	O
4	6	1	9	0	5

HTh in the place value grid means **hundred thousands**.

There are 4 hundred thousands.

There are 6 ten thousands.

There is 1 thousand.

There are 9 hundreds.

There are 0 tens and 5 ones.

I know that in words this number is four hundred and sixty-one thousand, nine hundred and five.

Think together

1 How many sweets are shown here?

There are ☐ sweets.

2

On Monday we made 728,611 sweets.

On Tuesday we made three hundred and seventy thousand, nine hundred and thirty-eight sweets.

a) Say out loud the number of sweets made on Monday.
Now write it in words.

b) Write the number of sweets made on Tuesday in numerals.

CHALLENGE

3 What does the digit 5 represent in each of these numbers?

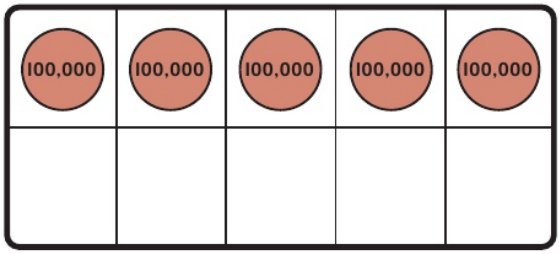
a)

Three hundred and fifty-two thousand, nine hundred

b)

128,745

c)



d)

HTh	TTh	Th	H	T	O
100,000 100,000	10,000		100 100 100 100 100	10 10	1 1 1 1 1 1

I think some of the numbers have 0 as a placeholder.

Make up your own number with 4, 5 or 6 digits.

Ask a partner to read it aloud to you and represent it in different ways.

→ Practice book 5A p15

Read and write 5- and 6-digit numbers

Discover

1 **a)** What 4-digit number has Ambika made?
Write the number and say it out loud.

b) Richard puts the number 1 card at the front to make a 5-digit number.
Ambika puts the last card at the front to make a 6-digit number.
What numbers have they made? Say them out loud.