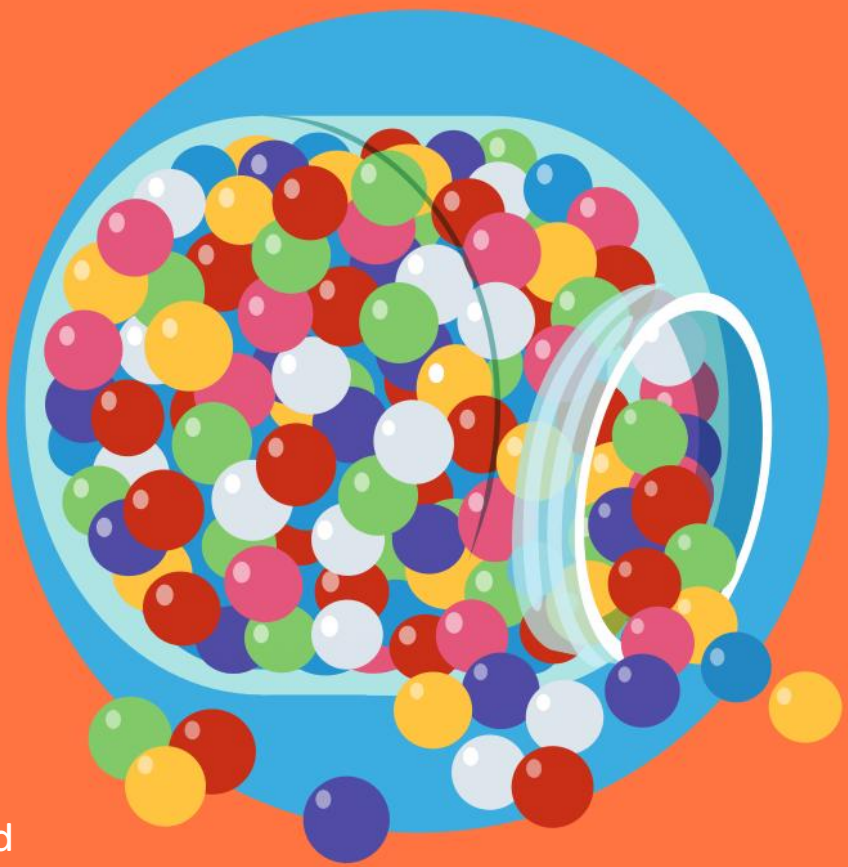
Oxford International Primary

3

Maths

Student Book



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Janet Rees

Language consultants:
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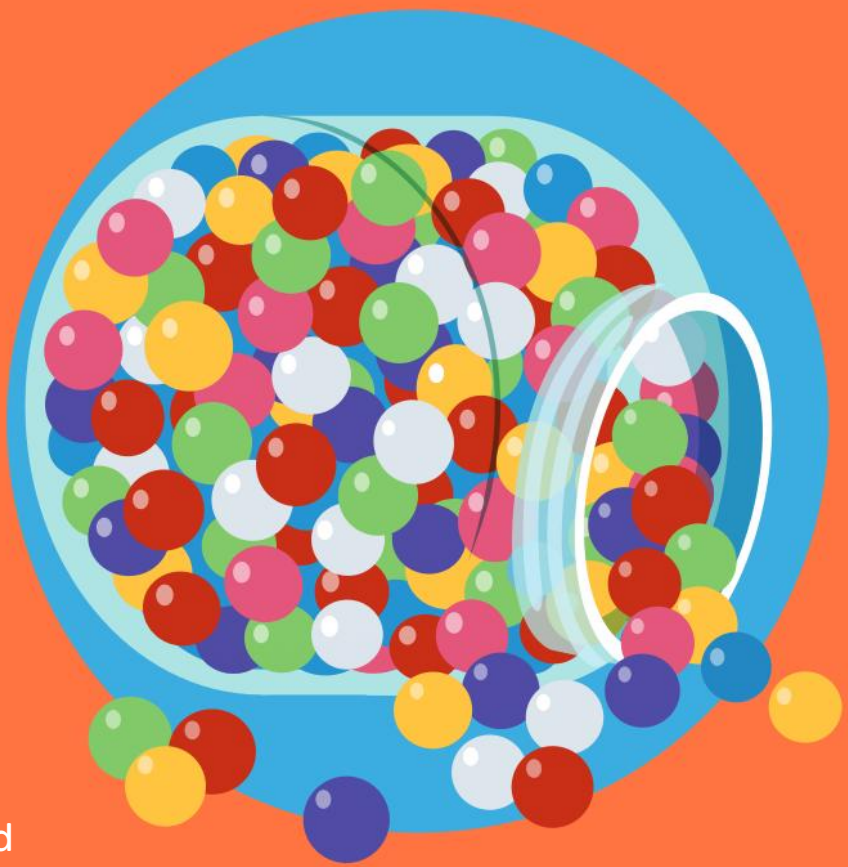

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UNIVERSITY PRESS

Great Clarendon Street, Oxford, OX2 6DP, United Kingdom

Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide. Oxford is a registered trade mark of Oxford University Press in the UK and in certain other countries.

First edition published 2014.

British Library Cataloguing in Publication Data Data available

ISBN 9781382006682

1 3 5 7 9 10 8 6 4 2

Paper used in the production of this book is a natural, recyclable product made from wood grown in sustainable forests. The manufacturing process conforms to the environmental regulations of the country of origin.

Printed in Great Britain by Bell and Bain Ltd. Glasgow.

Acknowledgements

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Contents

How to use this book

The Student Book for *Oxford International Primary Maths* forms part of your mathematics lessons for this year. Your teacher will introduce the ideas through whole-class activities, then you will explore them in more depth using this book, before all coming back together to discuss what you have learned.

Find out more at: www.oxfordprimary.com/international-maths

Structure of the book

This book is divided into 10 units. Each unit covers a different strand of mathematics.

What you will find in each unit

There are 5 types of lessons:

Engage introduces the unit's mathematical ideas.

It tells you what you will learn in the unit and includes the big question.

Discover introduces mathematical skills and concepts.

In **Explore** you practise the skills you learned in Discover.

Connect helps you make links between the different areas of mathematics in the unit.

In **Review** you show your teacher what you have learned in the unit.

What you will find in the lessons

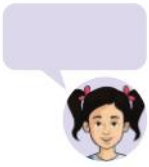
Although each lesson is unique, they have common features:

Discover / Explore The lesson type tells you whether you are discovering new mathematical concepts or exploring concepts you have already been introduced to.

Key words
- estimate
- guess

This box gives the key words for the lesson.

Stretch zone This challenges you to take your learning further.



In the speech bubbles, you will find useful hints, examples of how to complete a question, or extra questions to get you thinking about the mathematics you are doing.

Additional features

This shows you where you can practise the key vocabulary, either by writing the words or through a discussion.

This shows you where you can practise your mental maths skills such as your times tables or other key number facts.

This shows you where you need to record your work in a notebook.

Glossary Key words are listed in a picture glossary at the end of the book. You can write your own definition for each word.

Teacher's Guides

The Teacher's Guide that accompanies this book provides lesson notes for each page.

Practice Book

At the bottom of each page in this book, there is a link to the Practice Book, where you can find extra practice to do in your lesson or at home.

1 Number and place value

In this unit you will:

- read and write numbers up to 1000 and count from 0 in multiples of 4, 8, 50 and 100
- recognise hundreds, tens and ones in a 3-digit number
- estimate, compare and order numbers up to 1000
- solve number problems and practical problems.

How can I count large numbers of objects?

I think I can fit 1000 beans in a pile on my desk.

Engage

How long will a row of 1000 beans be if we put them end to end?

I think 1000 beans will fit in a line around the classroom.

I think 1000 beans on top of each other will be as tall as me.

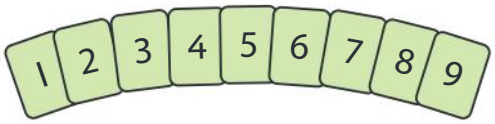
1A Place value

Discover 1

Place value of numbers

Key words
- hundreds
- tens
- ones

1 Pick three different cards from a set of digit cards 1–9.



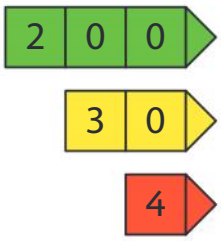
Write the digits. ☐ ☐ ☐

I picked 3, 2 and 4. The first number I made was 234.

2 Use the digits to make four different 3-digit numbers. Write the numbers in the table below, from the smallest to the biggest.

3 Use place-value cards to make each number.

4 Write the place-value cards that you used in the table. An example is shown below.



Number	Place-value cards
234	200 + 30 + 4

Number	Place-value cards

Do you always need three place-value cards to show a 3-digit number?

Stretch zone

Can you find the difference between your smallest number and your biggest number?

■ For more practice, go to Practice Book 3, page 14.

1A Place value

Discover 2

Place value activity

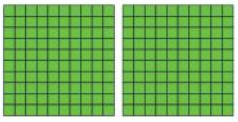
Key words
- hundreds
- tens
- ones
- biggest
- smallest

Think back

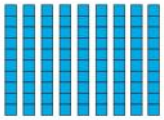
A digit's value depends on its position in a number.

Hundreds	Tens	Ones
2	9	8

This 2 represents 200.

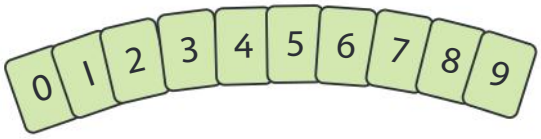


This 9 represents 90.



This 8 represents 8 ones.

1 Use a set of digit cards 0–9.



My first digit is 2. I will write 2 in the hundreds column.

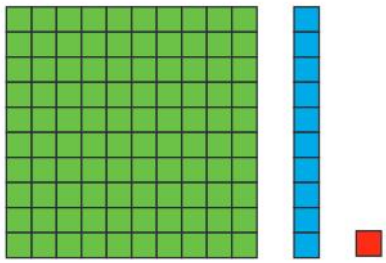
- Take three digit cards.
- Complete the first row of the table below. Write the three digits, in any order, in the hundreds, tens and ones columns.
- Then write the number in words.

Hundreds	Tens	Ones	Number in words

1A Place value

Discover 2 (continued)

2 Use base-10 equipment to model the number you have written.



a How many hundreds will you need? ☐

b How many tens? ☐

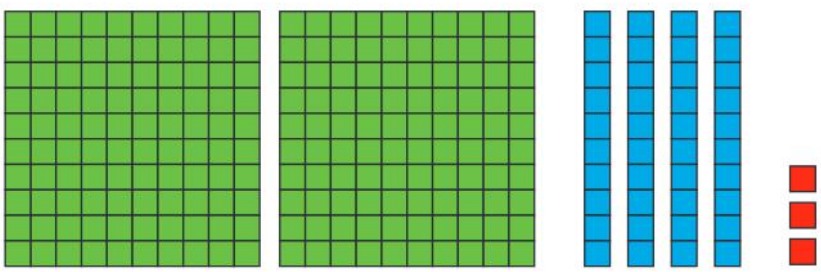
c How many ones? ☐

3 Repeat the activity. Choose new digits each time. Write your digits in the grid on page 8.

Try to make each of these:

- the biggest number you can
- the smallest number you can
- a number as close to 100 as possible
- a number as close to 500 as possible
- a number as close to 1000 as possible.

4 Model each of your numbers using base-10 equipment. Then write the number in numerals and words.
An example is shown below.



How close to 1000 is your number?

I picked 2, 3 and 4. I made 243.

Stretch zone

Choose three new digit cards. Write all the different numbers you can make with your cards. Can you arrange them from smallest to biggest?

■ For more practice, go to Practice Book 3, page 15.

1A Place value

Explore 1

1 more, 1 less, 10 more, 10 less

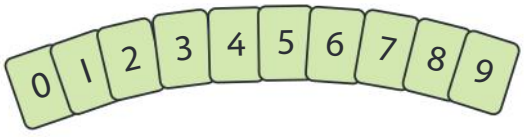
Use this 100-square for **question 1**.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Key words
- 1 more
- 1 less
- 10 more
- 10 less

I picked 5 and 3. I made 53. I coloured 53 red, 54 blue and 52 yellow.

1 Pick two cards from a set of digit cards 0–9. Use these cards to make a 2-digit number.



a Colour your number red on the 100-square.

Write this number. ☐

b Colour the number that is 1 more blue.

Write this number. ☐

c Colour the number that is 1 less yellow.

Write this number. ☐

Repeat these steps for 10 different 2-digit numbers.

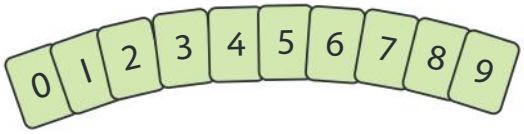
Do you always move one square to the right to find 1 more than a number?

Explore 1 continued

Use this 100-square for **question 2**.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2 Pick two cards from a set of digit cards 0–9. Use these cards to make a 2-digit number.



a Colour your number red on the 100-square.

Write this number. ☐

b Colour the number that is 10 more blue.

Write this number. ☐

c Colour the number that is 10 less yellow.

Write this number. ☐

Repeat these steps for 10 different numbers.

I picked 5 and 3. I made 53. I coloured 53 red, 63 blue and 43 yellow.

Do you always move one square down to find 10 more than a number?

Stretch zone

Can you think of a rule for finding 1 or 10 more or less than a number on a 100-square? Explain your rule to a partner.

■ For more practice, go to Practice Book 3, page 16.

1A Place value

Explore 2

1, 10 and 100 more or less

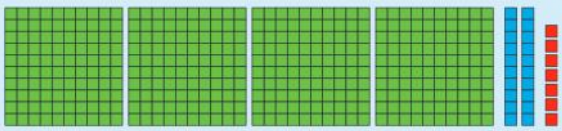
Key words
- count on
- count back
- 100 more
- 100 less

1 Pick three cards from a set of digit cards 0–9.
Make a 3-digit number.

a Model the number using base-10 equipment.

b Complete the first row of the table.

Worked example



My number	Add 100	Add 10	Add 1
427	527	437	428

My number	Add 100	Add 10	Add 1

c Make some different 3-digit numbers with the same digits. Complete the table.

2 Complete the rule for each column of the table.

a When I add 1 to a number the _____ digit increases by ☐.

b When I add 10 to a number the _____ digit increases by ☐.

c When I add 100 to a number the _____ digit increases by ☐.

I picked 4, 2 and 7.
I made 427.

Work with a friend to answer **question 2**. You can use base-10 equipment to help you.

What stays the same and what changes when you add 1, 10 or 100 to a number?

Stretch zone

Explain to a friend how you added 1, 10, and 100 using base-10 equipment.

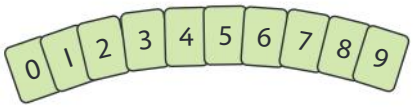
■ For more practice, go to Practice Book 3, page 17.

1B Comparing 3-digit numbers

Key words
- number line
- greater than (>)
- smaller than (<)

Discover 1

Compare numbers on a number line



1 Pick three cards from a set of digit cards 1–9. Write the digits in the boxes

My three digits are: ☐ ☐ ☐

2 Rearrange the digits to make six different numbers.

My six numbers are: ☐ ☐

☐ ☐ ☐ ☐

3 What is the biggest number you made? ☐

Mark it on the number line.

4 What is the smallest number you made? ☐

Mark it on the number line.

5 Use any of your six numbers and the > or < symbols to complete these number sentences.

☐ ☐ 550

120 ☐ ☐

☐ ☐ 312

☐ ☐ 56

1 2 5

I can rearrange these digits to make six different numbers:

125 152 215 251 512 521

Which of your numbers is closest to 400?

Stretch zone

Make up your own < and > number sentences.

■ For more practice, go to Practice Book 3, page 18.

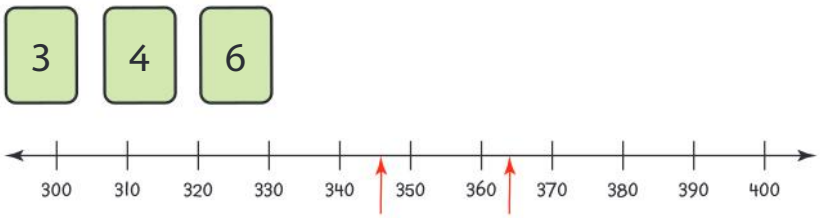
1B Comparing 3-digit numbers

Discover 2

Compare two numbers

Key words
- number line
- greater than (>)
- smaller than (<)

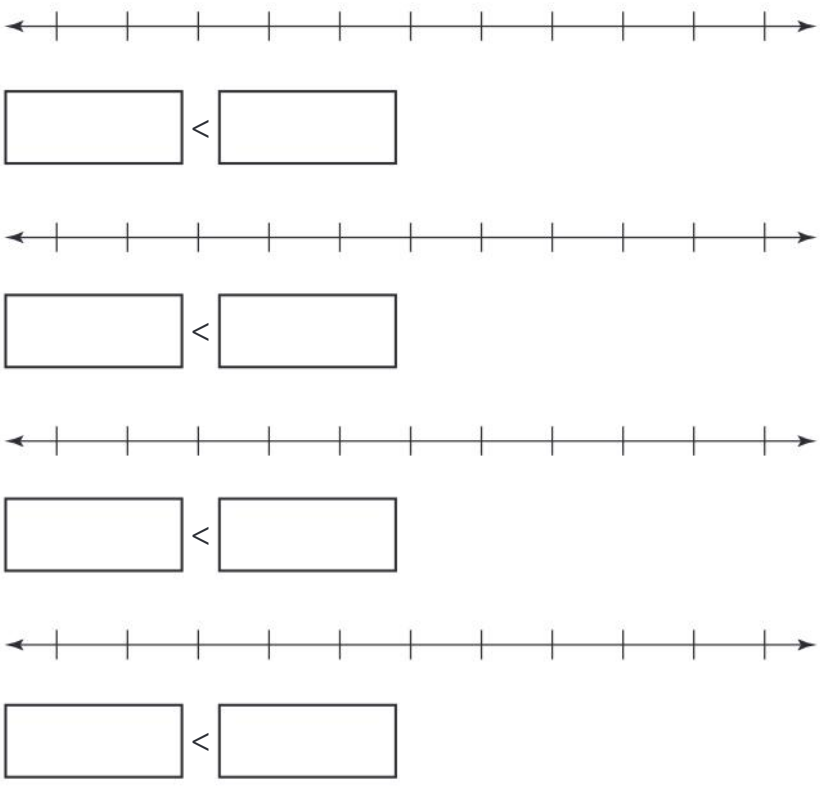
1 Pick three cards from a set of digit cards 0–9. Make two different numbers with the same number of hundreds. Mark your numbers on the number line. An example is shown below.



I can rearrange the digits on these cards to make two different numbers with 3 hundreds: 346 and 364.

I can mark the numbers on a number line.

2 Repeat four times.



Can you write all your numbers in words instead of numerals?

Stretch zone

What numbers can I choose to make two 3-digit numbers with a difference of less than 10? Is there more than one way of doing this?

■ For more practice, go to Practice Book 3, page 19.

1B Comparing 3-digit numbers

Key words
- hundreds
- tens
- ones

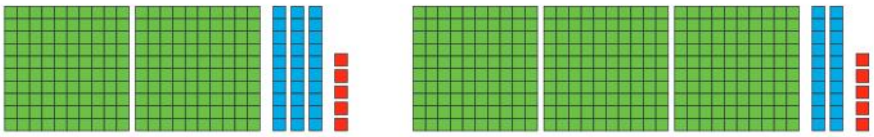
Explore 1

Compare numbers

1 Pick three cards from a set of digit cards 0–9.
Use them to make two different 3-digit numbers.

a Use base-10 equipment to model the two numbers.

b Complete the number sentence to compare your two numbers. Then write two sentences about your numbers. An example is shown below.



235 < 325

- My numbers have the same number of ones.
- 235 has one less hundred than 325.

I picked these cards. I made the numbers 235 and 325.

_____ < _____

- _____
- _____

2 Repeat the activity two more times.

_____ < _____

- _____
- _____

_____ < _____

- _____
- _____

Which of your pairs of numbers are closest together?

Stretch zone

Repeat the activity but this time make two 4-digit numbers.

■ For more practice, go to Practice Book 3, page 20.

1C Ordering, rounding and estimating

Discover (continued)

3 Repeat the activity with a 3-digit number. An example is shown below.

My number is 232.
It has 2 in the hundreds column. This is worth 200.
It also has another 2 digit. This is worth 2.
It rounds to 200 to the nearest hundred.
It rounds to 230 to the nearest ten.
My number < 233.

I thought of the number 232. Here are my five facts.

My number is ☐.

4 There are 438 students in a school. A parent asks the headteacher, 'Approximately, how many students go to your school?'

What do you think the headteacher says? Explain your answer.

Stretch zone

Think of a 3-digit number that will be difficult for a friend to guess. Write clear facts about your number. Use the language you have used in this lesson.

■ For more practice, go to Practice Book 3, page 22.

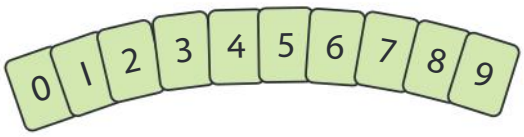
1C Ordering, rounding and estimating

Explore 1

Round to the nearest 10 and 100

Key words
- round
- to the nearest 10
- to the nearest 100

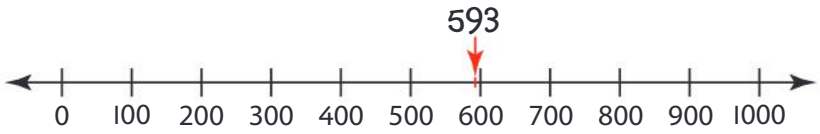
1 Pick three different cards from a set of digit cards 0–9.



Use these digits to make six 3-digit numbers.

I chose 3, 9 and 5 from a set of digit cards 0–9. I made the numbers 395, 359, 593, 539, 935, 953.

2 Write the numbers in the correct places on the number line. Draw an arrow to point to each number. An example is shown below.



3 Now write your numbers in order, from smallest to largest, in the table below. Then round each number to the nearest 10 and the nearest 100.

My number	Round to the nearest 10	Round to the nearest 100

What is an easy number to round? What is a difficult number round?

Stretch zone

Explain to a friend how you decide whether to round up or down.

■ For more practice, go to Practice Book 3, page 23.