Oxford International Primary

2

Maths

Student Book

Second edition

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Student Book

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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 activity, 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 12 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
- more than

This box gives the key words for the lesson.

Stretch zone Challenges you to take your learning deeper.

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 is a link to a Practice Book, where you can get extra practice to do in your lesson or at home.

1 Numbers and counting

How can I estimate numbers? How can I order numbers?

In this unit you will:

- count in steps of 2, 3, 5 and 10
- estimate numbers
- compare and order numbers using <, > and = signs
- read and write numbers to at least 100 in numerals and in words.

Engage

1A Counting in tens and ones

Discover

Count on or back?

Key words
- count on
- count back
- tens
- ones

1 Write the missing number in each sequence.

2 Complete the sentences using the words **on** or **back** and **ones** or **tens**.

a 3 4 5 ☐ 7 8

Count _____ in _____.

b ☐ 25 24 ☐ ☐ 21

Count _____ in _____.

c 15 16 ☐ 18 19 20

Count _____ in _____.

d 17 27 ☐ 47 ☐ 67

Count _____ in _____.

e ☐ 50 40 ☐ 20 10

Count _____ in _____.

f ☐ 79 69 59 ☐ ☐

Count _____ in _____.

3, 4, 5, 6, 7, 8. This is counting **on** in **ones**.

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

What patterns do you notice in these sequences?

Stretch zone

Write your own sequences. Ask a partner to write a sentence to describe the pattern in each sequence.

■ For more practice, go to Practice Book 2, page 16.

1A Counting in tens and ones

Explore

Count on and back using a 100-square

Key words
- count on
- count back
- tens
- ones

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

1 Colour 54, 62 and 12 on the 100-square.
- Start at 54. Count on in ones to 62. Then count back in tens to 12.

2 Colour 67, 76 and 16 in a different colour on the 100-square.
- Count in ones and tens to move from 67 to 76 and then to 16.

3 Now find a different way to move between the numbers 67, 76 and 16, counting in ones and tens.

- Complete the sentences to describe how you moved. Use the three numbers and the words **on**, **back, ones** and **tens**.

Start at ☐. Count _____ in _____ to ☐ then count _____ in _____ to ☐.

4 Work with a partner. Choose one of these sets of numbers:

4, 64, 71 7, 14, 84 1, 51, 59.

- Colour the three numbers on the 100-square.
- Count in ones and tens to get to all three numbers. Find the fewest number of moves.

Stretch zone

Is it better to count in tens first or ones first? Or is the order not important?

■ For more practice, go to Practice Book 2, page 17.

1B Counting in tens

Discover

Key words
- count on/ back in tens
- multiples of ten

Count in tens on a 100-square

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

1 Use the 100-square. Count in tens from 10. Colour each number you land on.

2 Complete the sentence using either **zero** or **five.**

When you count in tens from 10, all the numbers have a _____ in the ones place.

3 Choose any number in the top row. Count in tens from that number. Colour the numbers you land on in a different colour.

4 Write a sentence to describe the pattern in the numbers you have coloured.

_____

_____

_____

All these numbers are multiples of 10.

Stretch zone

Choose any number in the bottom row. Count back in tens. Colour the numbers you land on using a different colour.

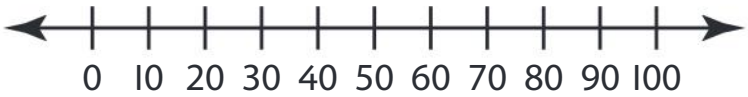
How is this pattern of numbers the same as the pattern in **question 3**? How is it different?

■ For more practice, go to Practice Book 2, page 18.

1B Counting in tens

Explore

Count in tens on a number line



Key words
- count on/ back in tens
- even
- odd
- multiples of ten

1 Start at 0. Count on 4 jumps of 10.
Which numbers do you land on?

Which number do you finish on?

2 Start at 100. Count back 5 jumps of 10.
Which numbers do you land on?

Which number do you finish on?

3 Start at 90. Count back 4 jumps of 10.
Which numbers do you land on?

Which number do you finish on?

4 Start at 60. Count on 4 jumps of 10.
Which numbers do you land on?

Which number do you finish on?

Place your finger on the start number and move it on or back as you count.

Say all the numbers out loud as you count.

Stretch zone

Write three things that you notice about the numbers in these questions.

■ For more practice, go to Practice Book 2, page 19.

1C Counting in twos

Discover

Count in twos on a 100-square

Key words
- count on/ back in twos
- even
- odd
- multiples of two

1 Count on in twos from 72 to 100. Colour each number you land on red.

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

What do you notice about the red squares? What do you notice about the blue squares?

2 Count on in twos from 32 to 50. Colour each number you land on red.

3 Count on in twos from 21 to 41. Colour each number you land on blue.

4 Colour the odd numbers less than 20 blue.

5 Complete this sentence using the word **odd** or **even**.

All the red numbers are _____.

Which numbers are multiples of two? The red numbers or the blue numbers?

Stretch zone

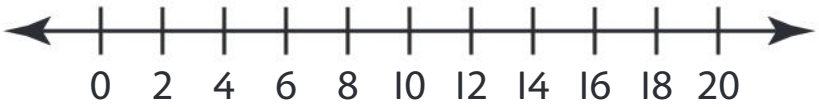
Count on in fours from 0 to 50. What do you notice?

■ For more practice, go to Practice Book 2, page 20.

1C Counting in twos

Explore

Count in twos on a number line



Key words
- count on/ back in twos
- even/odd
- multiples of two

1 Start at 0. Count on 3 jumps of 2.

Which numbers do you land on?

☐ ☐ ☐

Which number do you finish on? ☐

2 Start at 4. Count on 5 jumps of 2.

Which numbers do you land on?

☐ ☐ ☐ ☐ ☐

Which number do you finish on? ☐

3 Start at 2. Count on 8 jumps of 2.

Which numbers do you land on?

☐ ☐ ☐ ☐ ☐

☐ ☐ ☐

Which number do you finish on? ☐

All these numbers are multiples of 2. What pattern do you see in the ones digits?

Can you count back in twos? Use different starting numbers.

Stretch zone

When you count back in twos, how can you make sure you will finish on 0? Which start numbers should you choose? Can you explain your answer?

■ For more practice, go to Practice Book 2, page 21.

1D Counting in fives

Discover

Key words
- count on/ back in fives
- multiples of five

Count in fives on a 100-square

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

1 Use the 100-square. Count in fives from 5. Colour each number you land on.

2 Complete the sentence using two of these words: **zero**, **one**, **two**, **five**.

When you count in fives from 5, all the numbers have a _____ or a _____ in the ones place.

3 Choose any number in the top row. Count in fives from that number. Colour the numbers you land on using a different colour.

4 Write a sentence to describe the pattern in the numbers you have coloured.

_____

_____

_____

All these numbers are multiples of 5. What pattern can you see in the digits?

Is 54 a multiple of 5?

Stretch zone

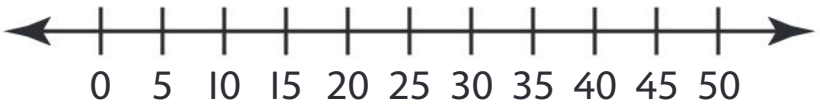
Can you explain to a partner how you know that a number is a multiple of 5? Write a sentence to describe how you know.

■ For more practice, go to Practice Book 2, page 22.

1D Counting in fives

Explore

Count in fives on a number line



Key words
- count on/ back in fives
- multiples of five
- predict

1 Start at 0. Count on 4 jumps of 5.
Which numbers do you land on?

Which number do you finish on?

2 Start at 50. Count **back** 5 jumps of 5.
Which numbers do you land on?

Which number do you finish on?

3 Start at 40. Count **back** 4 jumps of 5.
Which numbers do you land on?

Which number do you finish on?

4 Start at 20. Count on 5 jumps of 5.
Which numbers do you land on?

Which number do you finish on?

All these numbers are multiples of 5. What pattern do you see in the ones digits?

When you count back, is the pattern in the ones digits the same as when you count on?

Stretch zone

Start at 0. Can you predict how many jumps you need to get to each of these numbers? 20 30 40

■ For more practice, go to Practice Book 2, page 23.

1E Counting in threes and fours

Discover

Key words
- number pattern
- horizontal
- vertical
- diagonal

Count in threes and fours on a 100-square

1 Start at 3. Count on in threes. Colour all the numbers you land on red.

2 Start at 4. Count on in fours. Colour all the numbers you land on blue.

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

3 Complete the sentence using the word **horizontal**, **vertical** or **diagonal**.

When you count in threes, the numbers make _____ lines on the 100-square.

4 Complete the sentence using the word **even** or **odd**.

When you count in fours from 4, all the numbers are _____.

This arrow is horizontal. ↔

This arrow is vertical. ↕

This arrow is diagonal. ⤢

Stretch zone

I start at 3 and count on in threes. Then I start at 4 and count on in fours. Which numbers are in both patterns?

■ For more practice, go to Practice Book 2, page 24.

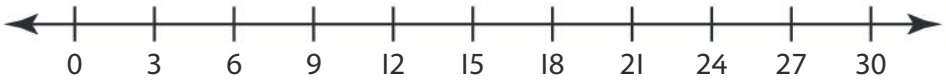
1E Counting in threes and fours

Explore

Key words
- count on/back
- threes
- fours
- multiples

Count in threes and fours on a number line

For all these questions, start at 0 on the number line.



1 I count on 4 jumps of 3. I land on: ☐ ☐ ☐ ☐.

I finish on ☐.

This number line is marked in threes.

2 I count on 6 jumps of 3. I land on: ☐ ☐ ☐ ☐ ☐ ☐.

I finish on ☐.

This number line is marked in fours.

3 I count on 4 jumps of 4. I land on: ☐ ☐ ☐ ☐.

I finish on ☐.

4 I count on 7 jumps of 4. I land on: ☐ ☐ ☐ ☐ ☐ ☐ ☐.

I finish on ☐.

Stretch zone

When you count back, how can you make sure you will finish on 0?
Which start numbers can you choose when you count back in threes?
Are the start numbers different when you count back in fours?

■ For more practice, go to Practice Book 2, page 25.

1F Estimating and counting

Discover

Key words
- estimate
- more than
- less than

Estimate amounts

1 Your teacher will give you some bags of objects.
- Write the name of the object under each bag.

2 Estimate how many objects are in each bag.


Estimate ☐
Count ☐


Estimate ☐
Count ☐

Cubes


Estimate ☐
Count ☐


Estimate ☐
Count ☐


Estimate ☐
Count ☐


Estimate ☐
Count ☐

3 Tip out the objects and count them.

Which was your closest estimate?

Stretch zone

Did you get better at estimating? How did you change your strategy?

■ For more practice, go to Practice Book 2, page 26.