

Cambridge Primary Mathematics

Second Edition
**Learner's
Book 4**

**SAMPLE
MATERIAL**

**Steph King
Josh Lury**

Series editors:
**Paul Broadbent
Mike Askew**



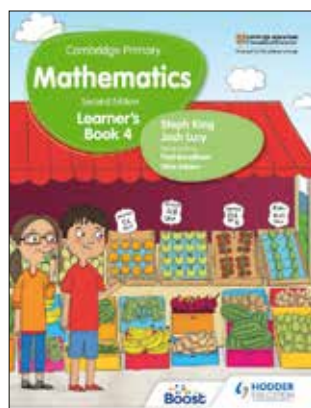
We are working with Cambridge Assessment International Education to gain endorsement for this forthcoming series.

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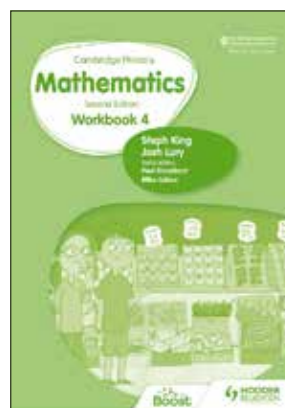
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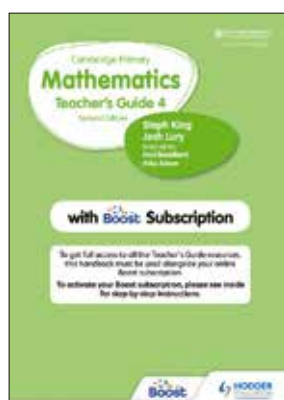
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Cambridge Primary

Mathematics

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Term 3 Review

Mathematical dictionary



Skills for calculating

Explore

Read the heights of these mountains.
Which heights **round** to 9 000 to the **nearest** 1 000?
Which height rounds to 8 500 to the nearest 100?
What other rounding can you do?
Approximately how many metres higher is Makalu than Broad Peak?



Maths words

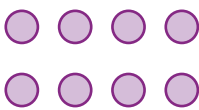
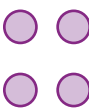
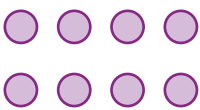
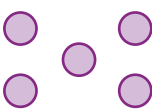
round
nearest
decompose
regroup

Mountain	Height (m)
Mount Everest	8 848
K2	8 611
Makalu	8 485
Broad Peak	8 051
Nanda Devi	7 816



Learn

Knowing the place value of individual digits can help you to round and **decompose** numbers. The mountain called Makalu is 8 485 m tall. 8 485 is represented here.

Thousands	Hundreds	Tens	Ones
			

We can **decompose** 8 485 to show the value of each digit.

$$8\,485 = 8\,000 + 400 + 80 + 5$$

We can also **regroup** 8 485 in different ways:

$$8\,485 = 8\,000 + 485$$

$$8\,485 = 8\,000 + 400 + 85$$

$$8\,485 = 7\,000 + 1\,400 + 85$$

Regrouping numbers is an important skill when calculating.

Why do you think this is?

Practise

1 Decompose these numbers to show the value of each digit.

a 7 457

b 8 504

c 11 085

d 15 142

2 Copy and complete this table.

	Rounded to the nearest 10	Rounded to the nearest 100	Rounded to the nearest 1 000	Rounded to the nearest 10 000
7 457				
8 504				
11 085				
15 142				

Practise

3 Use regrouping to work out the missing numbers.

a $7\,457 = 7\,000 + 300 + \square$

b $7\,457 = 6\,000 + \square + 57$

c $7\,457 = 7\,400 + \square + 17$

d $7\,457 = 6\,000 + \square + 7$

Try this

I am thinking of a number.
It rounds up to 20 000 to the nearest 10 000.
One of the digits has the value 5 000.

I can regroup
the number as
 $\square + 650 + 35$.



What is my number?

Let's talk

We can also round larger numbers to the nearest 100 000.
Talk about the different rules for rounding that you know.
How can the rounding rules you know help you to decide which of these numbers rounds up to 100 000?

35 321

53 321

49 999

50 011

35 321

Convince
your partner
of your idea.

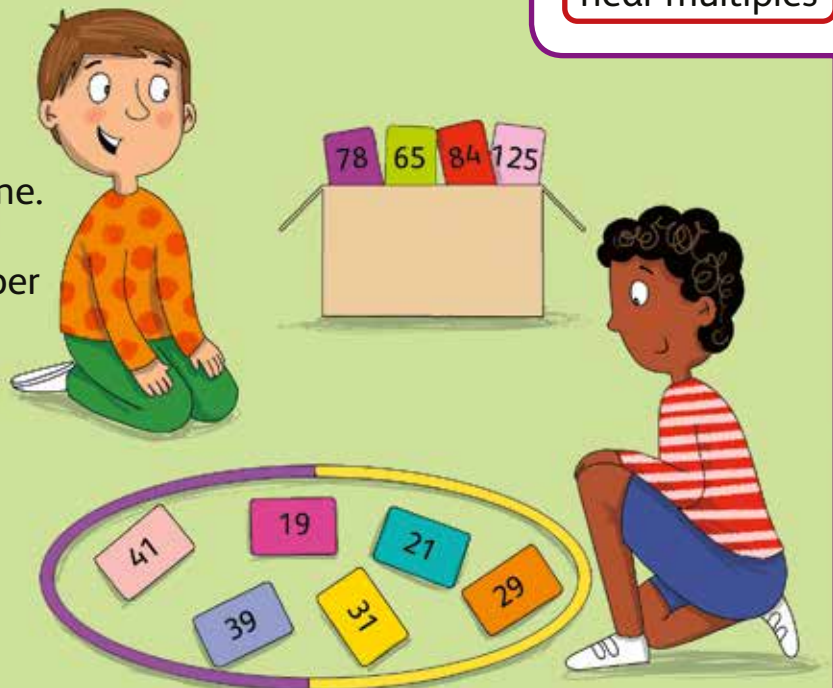


Using rounding to help with adding and subtracting

Explore

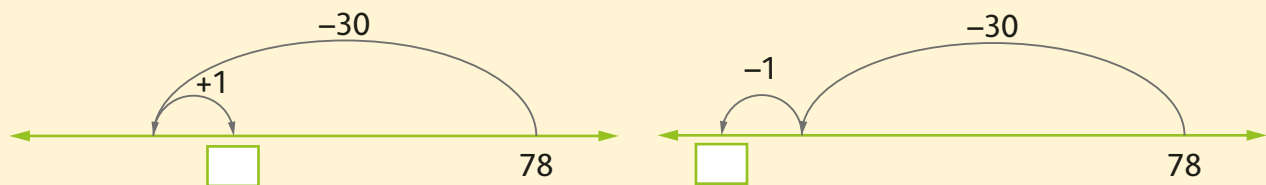
Maths words
near multiples

The children are playing an adding and subtracting game. They choose one number from the box and one number from the hoop. Make up some calculations that the children can do. Estimate the answers. How can you use rounding to help you estimate?



Learn

These number lines show the two calculations $78 - 29$ and $78 - 31$. The numbers 29 and 31 are **near multiples** of 10. They both round to 30.



We can use what we know about place value to help us subtract tens. We can write $78 - 29$ as $78 - 30 + 1$. Why do we need to add 1 when we subtract 29 in this way? We can write $78 - 31$ as $78 - 30 - 1$.

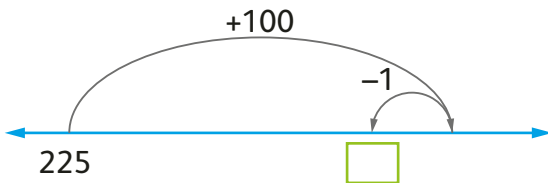
Practise

1 Solve these pairs of additions and subtractions using mental methods.

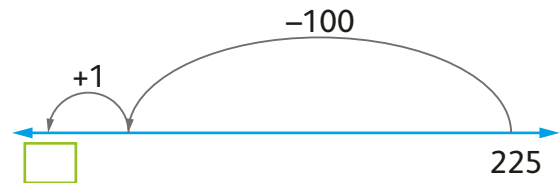
a $68 + 31$	b $58 - 31$	c $88 - 32$	d $51 + 42$	e $63 + 41$	f $63 + 39$
$68 + 29$	$58 - 29$	$88 - 28$	$51 - 42$	$63 - 41$	$63 - 39$

2 Write the calculation for each number line.

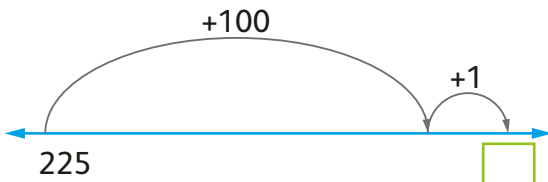
a



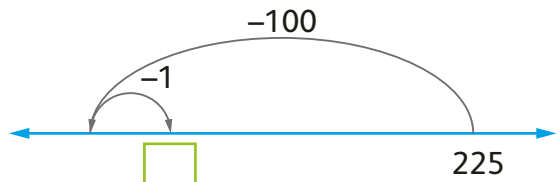
b



d



e



3 Copy these and write the answers.

a $146 + 100$
 $146 + 102$
 $146 + 98$
 $146 + 97$

b $246 - 100$
 $246 - 102$
 $246 - 98$
 $246 - 97$

c $346 + 203$
 $346 + 197$
 $346 - 203$
 $346 - 197$

Try this

Pia uses rounding to help her with a calculation.
 She adds a multiple of ten and then subtracts 1.

$$\square \square \square + \square \square = 195$$

What could the calculation be?



Find all the solutions.
 What do you notice?

Working with addition

Explore

How high is this human tower?

Is 100 cm a good **estimate**?

What about 500 cm?

How could you make a good estimate of the total height?

What factors do you need to consider to make the best prediction you can?



Maths words

estimate
decompose
add

Learn

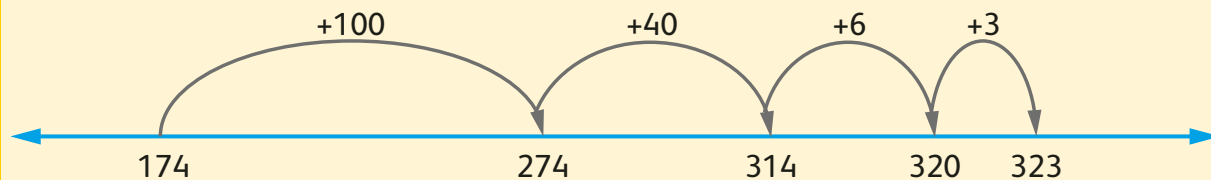
You can use addition to find total heights.

Estimate: **174 cm + 149 cm**

You can work out the actual total in different ways.

Adding on method

$$174 + 149 =$$



Decomposing and composing method

$$174 + 149 =$$

$$100 + 100 = 200$$

$$70 + 40 = 110$$

$$4 + 9 = \underline{13}$$

$$\underline{\underline{323}}$$

Written column method

H	T	O	Method
1	7	4	a 4 ones + 9 ones
+ 1	4	9	b 7 tens + 4 tens, then add one more ten
3	2	3	c 1 hundred + 1 hundred, then add 1 more hundred
1	1		

$$1 \quad 7 \quad 4$$

$$+ 1 \quad 4 \quad 9$$

$$\underline{\quad \quad \quad}$$

$$1 \quad 1$$

How close was your estimate to the actual total?

149 is a near multiple of 10.

Try to think of another way to **add** 174 and 149.

Practise

1 a Estimate the answers to these.

$$453 + 230 = \boxed{}$$

$$152 + 128 = \boxed{}$$

$$176 + 342 = \boxed{}$$

$$365 + 278 = \boxed{}$$

$$378 + 265 = \boxed{}$$

$$559 + 197 = \boxed{}$$

b Work out the actual answers.

Practise

- ★ 2 Use regrouping to help you complete the additions below this example.

$$375 + 146 = 375 + 100 + 25 + 21$$

- a $450 + 265 = \square$
 b $493 + 128 = \square$
 c $385 + 128 = \square$
 d $389 + 234 = \square$

Why do we regroup 146 as $100 + 25 + 21$?



You can use estimates or a calculator to check your answers.



- 3 There are 465 people at a station. Another 248 people arrive. How many people are at the station in total?

Try this



I know that $356 + 197 = 523$ must be wrong because a sensible estimate is $350 + 200 = 550$. The answer 523 is too low.

Use estimates like Sanchia's to help you check these additions.

- a $309 + 184 = 493$
 b $478 + 234 = 742$
 c $249 + 355 = 594$
 d $686 + 293 = 979$

Let's talk

Think about the methods you used for the addition questions in **Practise**. Compare the methods with a partner. Explain why you chose each method. Write some other additions that you would solve using a mental method. Now write some additions that you would solve using the column method. Justify your decisions.

Working with subtraction

Explore

What length of each roll of ribbon could be left after the children finish wrapping their parcels? Make an **estimate** first.

I used 127 cm of green ribbon for my parcel.

I need to use 195 cm of ribbon.

I used 112 cm of blue ribbon.

I need to use 154 cm of ribbon.

Maths words
estimate subtract regroup

Learn

Estimate: **523 – 195**
Will the actual answer be larger or smaller? Let’s investigate.

Subtracting back method	Regrouping method	Written column method																
A number line starting at 328 and ending at 523. There are four jumps: a small left jump of 2 units to 326, a small left jump of 3 units to 323, a medium left jump of 90 units to 423, and a large left jump of 100 units to 523. The jumps are labeled -2, -3, -90, and -100 respectively.	$(523 = 400 + 110 + 13)$ $523 - 195 =$ $400 - 100 = 300$ $110 - 90 = 20$ $13 - 5 = \underline{8} +$ 328	<table><tr><th>H</th><th>T</th><th>O</th><th>Method</th></tr><tr><td>4</td><td>5</td><td>13</td><td>a 13 ones – 5 ones</td></tr><tr><td>– 1</td><td>9</td><td>5</td><td>b 11 tens – 9 tens</td></tr><tr><td>3</td><td>2</td><td>8</td><td>c 4 hundreds – 1 hundred</td></tr></table>	H	T	O	Method	4	5	13	a 13 ones – 5 ones	– 1	9	5	b 11 tens – 9 tens	3	2	8	c 4 hundreds – 1 hundred
H	T	O	Method															
4	5	13	a 13 ones – 5 ones															
– 1	9	5	b 11 tens – 9 tens															
3	2	8	c 4 hundreds – 1 hundred															

How close was your estimate to the actual total?
Was it more or less than the actual total? 195 is a near multiple of 100.
Can you think of another way to solve 523 – 195?

Practise

- 1 a Estimate. Will the actual answer be more or less than your estimate?

$$725 - 154 \text{ estimate is } 700 - 150 = 550$$

$$654 - 248 \text{ estimate is } \boxed{}$$

$$918 - 436 \text{ estimate is } \boxed{}$$

$$743 - 355 \text{ estimate is } \boxed{}$$

- b Complete the subtractions using a mental or written method. Check against your estimates.

- ★ 2 Use regrouping to help you complete the other subtractions.

$$432 - 164 = 432 - 100 - 32 - 32$$

Why is 164 regrouped as 100 and 32 and 32?

a $450 - 268 = \boxed{}$

b $439 - 145 = \boxed{}$

c $523 - 238 = \boxed{}$

d $635 - 270 = \boxed{}$

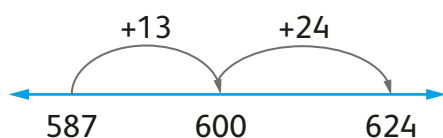
You can use estimates or a calculator to check your answers.



- 3 There are 834 people at a museum. 349 people go home. How many people are left at the museum?

Let's talk

Elok uses a counting up method to complete the subtraction $624 - 587$.



Talk about why she used this method instead of another method. Make up other calculations to solve using the same method as Elok. Explain your choices.

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Mathematics

Second Edition

Learner's Book 4

Master the essential mathematical concepts that underpin the new Cambridge Primary Mathematics curriculum framework, with specifically sign-posted tasks and activities rooted in the mastery approach.

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