Add two 3-digit numbers – not crossing 10 or 100



Complete the column addition.

Use base 10 to help you.

	Hundreds	Tens	Ones
⊢			

	н	т	0	
	4	5	3	
+	1	2	5	

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work out 362 + 205

Hundreds Tens Ones $\bigcirc \bigcirc$ +

Kim uses counters and a place value chart to help her

	Н	Т	0	
	3	6	2	
+	2	0	5	

- a) Draw counters to complete the chart.
- **b)** Complete the column addition.
- c) Which column did you add first? Talk to a partner about your method.

Mrs Morgan drives 230 km on Monday. On Tuesday she drives 169 km. How far does she drive in total on Monday and Tuesday?

a) 711 + 140 =

+ 100 +40700 711 **b)** 414 + 203 = + 400 414

c) 502 + 384 =







Complete the additions.



The table shows the number of boys and girls in two schools.

	Boys	Girls		
School A	224	305		
School B	400			

a) The total number of children in each school is equal.

Without working it out, which school has more girls?

How do you know?

b) How many girls are there in school B?



Work out a possible set of addition problems.

	Н	Т	0			Н	Т	0			Η	Т	0	
+					+					+				
	8	8	8			8	8	8			8	8	8	

Here is an addition pyramid. Add the two numbers below to make the number above. a) Complete the addition pyramid.



b) Complete the addition pyramid.

None of the additions should have an exchange.

The total is 768



Compare answers with a partner.



Three children each work out an addition problem.

- Each child uses the same six digits.
- Each addition gives the same answer of 888
- Each child adds two different numbers together.





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Tick the additions that need an exchange of ones for a ten.

	Η	Т	0		Η	Т	0		Η	Т	0	
	2	3	8		4	2	7		3	0	8	
+	1	4	1	+	2	6	8	+	1	5	1	

How do you know if an addition needs to exchange 10 ones for a ten?

Dani uses counters to represent an addition.



- a) What addition is Dani trying to work out?
- **b)** Work out the answer to the addition.
- c) How many exchanges did you have to do?

Complete the column addition.

a) 235 + 157



	н	Т	0	
	2	3	5	
+	1	5	7	

b) 372 + 144

	Hundreds	Tens	Ones
-			•
			-

	Н	Т	0
	3	7	2
+	1	4	4





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a) Tick the additions with an answer that ends in zero.



- b) Did you have to work out all of the additions?
- c) Complete the sentences.



Fill in the missing digits. a) H T O 3 2 5 4 + 3 7 b) Η Т 0 0 9 1 2 + 5 5 Dexter bakes 148 biscuits on Monday. On Tuesday he bakes 273 more biscuits than he did on Monday. a) How many biscuits does Dexter bake on Tuesday? b) How many biscuits does he bake in total on Monday and Tuesday? Write two addition calculations that have: • 1 exchange • 2 exchanges. Compare answers with a partner.

c)		Н	Т	0	
		2	7	8	
	+	2	5		
				0	

d)		Th	Н	Т	0	
			5	7	3	
	+					
		1	0	0	0	







Subtract 3-digit numbers from 3-digit numbers – no exchange

Complete the column subtractions.

a) 358 – 226



Ron is working out 785 – 257 0 Η Т 5 7 2 7 8 5 _

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Do you agree with the way Ron has set out the subtraction? Why?

b) 726 – 303

Т 0 Η

	Η	Т	0	
	7	2	6	
_	3	0	3	

Complete the subtractions.



b)		Н	Т	0	
		5	6	3	
	_	1	5	1	







A TV costs £120 less than this computer. How much does the TV cost?

There are 849 people at a concert.

There are 625 adults at the concert.

a) How many children are at the concert?





b) How many more adults than children are at the concert?



What are the values of each of the shapes?











Subtract a 3-digit number from a 3-digit number – exchange



Which of these calculations need an exchange? 2 Tick your answers.

	Н	Т	0			Η	1
	6	5	8			3	2
_	1	4	4		-	1	1

How do you know?

Work out the subtractions.

a) 735 – 218

	Н	Т	0	
	7	3	5	
-	2	1	8	

b) 428 – 163

	Η	Т	0	
	4	2	8	
—	1	6	3	

Complete the column subtractions.

a) 254 – 126



	Н	Т	0	
	2	5	4	
—	1	2	6	

What exchange did you have to make?

b) 532 – 281

Hundreds	Tens	Ones
100 100 100 100 100 100 100 100	10 10 10	

	Н	Т	0	
	5	3	2	
_	2	8	1	

What exchange did you have to make?





c) 415 – 179

	Н	Т	0	
	4	1	5	
-	1	7	9	

d) 382 – 194

	Η	Т	0	
	3	8	2	
-	1	9	4	



Talk about the mistake that has been made.

_	546 283 343	
	343	



Complete the subtractions.



b)	 				
~,		н	т	0	
		8	0	5	
	-	1	7	9	



Work out the missing digits in these subtractions.





7

Two points are marked on a number line.



What is the difference between the two points?

Fill in the missing numbers. 8 **a)** 179 + = 595 **b)** 718 – = 348 Here are 3 buildings. • A is 150 m tall • B is 317 m taller than A • C is 223 m shorter than B How much taller is C than A? Aisha buys these items. 10 £189 How much change does she have from £1,000?





1s, 10s, 100s, 1,000s

Dora makes a number on a place value chart.

Th	Н	Т	0
1,000 1,000	100 100 100 100	10 10	

- a) What number has Dora made?
- b) Add 3 ones to Dora's number.What number do you have?
- c) Add 2 tens to Dora's number. What number do you have now?
- d) Subtract 2 hundreds from Dora's number.What number do you have now?
- e) Add 5 thousands to Dora's number.What number do you have now?

			1
			L
			L

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2	Complete the	e calculatio	ons.
	Use the place	e value ch	art to hel
		1,000s	100s
		5	3
	a) 5,378 + 20	00 =	
	b) 5,378 + 20) =	
	c) 5,378 + 2,0	000 =	
	d) 5,378 – 6	=	
3	Complete the	e calculatio	ons.
	a) 6,058 + 1	=	
	6,058 + 2	=	
	6,058 + 3	=	
	6,058 + 4	=	
	5 + 6,058	=	
4	Mo is going Circle the nu	to add 100 mbers who) to each ere the 1,
	2,450	3,928	4,180
	What do you	u notice?	





0 5,905 972

- Mr Hall has £1,342 in the bank.
- a) Mr Hall puts in £500 more.

How much money does he have in the bank now?





How much money does Mr Hall have in the bank now?



How much money does he have in the bank now?

ls Eva correct?



If I keep taking ten away from the number 2,562 only the tens will change.











- **b)** Now calculate 3,214 + 122 in the same way.
 - 3,214 + 122 =
- c) What do you notice about your answers to part a) and part b)?



Alex is calculating 5,702 + 125

	Th	Η	Т	0	
	5	7	0	2	
+	1	2	5		
	6	q	5	2	

Do you agree with Alex? _____ Explain your answer.

Complete the calculation.

5,702 + 125 =







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The distance from Scotland to France is 1,550 km.

The distance from France to Spain is 1,002 km.

Teddy is travelling from Scotland to France and then France to Spain.

How far will he travel in total?

							0	



Whitney and Jack are playing a game. Whitney has 1,323 points.

Jack has 230 points more than Whitney.

How many points do they have altogether?



Fill in the missing digits. Th H 0 Т 2 3 4 6 + 8 7 9 6 Complete the calculation. 2,415 + 5,142 =

> What do you notice about the numbers in the question? How does this affect the answer?

Think of some more calculations like this. Try them out with a partner.





Add two 4-digit numbers – one exchange

Complete the calculations.

Use the place value charts to help you.

a) 3,117 + 2,542 =



b) 3,117 + 2,544 =



c) What do you notice about the calculations in part a) and part b)?

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- Which did you find easier and why?
- d) What happens when you have more than 10 counters in one column?









c)						
		Th	Н	Т	0	
			7	0	3	
	+	2	5	8	0	

d)						
		Th	н	т	0	
		3	5	0	8	
	+	2	7	3	1	



Rosie's method



4,635 + 183 = 47,118

Alex's method

	Th	Η	Т	0	
	4	6	3	5	
+		1	8	3	
	4	8	1	8	
		1			

4,635 + 183 = 4,818

Jack's method

	Th	Н	Т	0	
	4	6	3	5	
+		1	8	3	
	4	7	1	8	

4,635 + 183 = 4,718

Teddy's method

	Th	Н	Т	0	
	4	6	3	5	
+	1	8	3		
	6	4	6	5	
	1				

4,635 + 183 = 6,465

Whose method is correct? _____

Talk about the mistakes the other children have made.



Mr Robson has £2,100 to spend on a mobile phone and a laptop.

What combinations of laptops and phones can he afford to buy?

Fill in the missing digits.

a)		Th	Н	Т	0	
		3		2		
	+		4		6	
		8	7	9	1	

b)		Th	Η	Т	0	
	+	3	8	2	1	
		8	7	9	1	



Add two 4-digit numbers – more than one exchange

Complete the calculation.



Who has got each question correct? Tick your answer.

a) Nijah

	Н	Т	0	
	4	4	5	
+	3	4	8	
	78	1	3	

Scott

	Н	Т	0	
	4	4	5	
+	3	4	8	
	7	q	3	
		1		

b) Nijah

	Th	Η	Т	0	
	4	8	2	6	
+	1	7	8		
	6	6	0	6	
	1	1			

What mistake has the other person made in each calculation?

Talk about it with a partner.



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Complete the additions.

a)						
		Th	Н	Т	0	
		4	7	1	2	
	+	3	4	9	2	

b)

	Th	Н	Т	0	
	6	0	7	5	
+		9	4	8	

Scott

	Th	Η	Т	0	
	4	8	2	6	
+		1	7	8	
	5	0	0	4	
	1	1	1		



d) 79 + 654 + 1,312



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Write each calculation in the correct column.

712 + 394	1,312 + 2,527	2,350 + 3,760
1,995 + 712	3,044 + 2,372	17 + 953

No exchange needed	One exchange	More than one exchange

Write one more calculation of your own in each column.

Dexter is playing a computer game.

The table shows the number of points he gets in each round.

Round	1	2	3
Number of points	3,550	2,175	1,895

a) How many points does Dexter have at the end of Round 2?

b) He needs 8,000 by the end of Round 3 to win the game.

Does Dexter win the game? _____

Show your workings.



Work out the missing digits.

a)		Th	Н	Т	0	
		3	7		9	
	+			8		
		6	9	2	5	

c) Find two possible answers.



How did you work this out? Talk about it with a partner. Are there any more answers?



	•
b	•
~	

	Th	Η	Т	0	
			8	1	
+		9	8		
	4	2		8	

	Th	Н	Т	0	
	2		1		
+	3		6		
	6	1	8	2	







Subtract two 4-digit numbers – no exchange



Use the place value chart to work out 5,624 – 2,301



Complete the calculation.

	Th	Н	Т	0	
	5	6	2	4	
—	2	3	0	1	

What is the same about the representations? What is different?



Use the place value charts to complete the calculations.

a) 3,412 – 1,201



	Th	Н	Т	0
	3	4	1	2
_	1	2	0	1

b) 5,361 – 3,241

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<u>3</u> C

Complete the calculations.



b)		Th	Н	т	0	
		8	0	6	1	
	-	3	0	6	0	

		Th	Н	Т	0	
		5	3	6	1	
	_	3	2	4	1	

		Th	Н	Т	0	
1		7	4	0	5	
	_		4	0	4	

_	•
C	
-	,

C

	Th	Η	Т	0	
	4	9	2	7	
_		3	1	5	



5,875 m

С

Subtract two 4-digit numbers one exchange

Th	Н	Т	0
1,000 1,000 1,000 1,000	100 100 100 100	10 10 10	

- a) Use the place value chart to complete the calculation.
 - 5,435 3,215 =
- **b)** Use the place value chart to complete the calculation.
 - 5,435 3,216 =

- c) Which calculation was easier? Talk about it with a partner.
- d) What happens when you don't have enough counters in a column to take away?

Complete the sentences. 1 ten can be exchanged for ones. 1 hundred can be exchanged for 10 _ 1 thousand can be exchanged for

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Complete the calculations.

α)		Н	Т	0	
		3	2	7	
	-	1	1	9	

b)		Th	Н	Т	0	
		7	6	7	3	
	_		1	3	4	

Complete the calculations.

a)		Н	Т	0	
		3	2	7	
	_	1	3	2	

c)

	Th	Н	т	0	
	9	8	4	5	
_	6	2	1	6	

0

5

0

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c)		Th	Н	Т
		9	8	4
	_	2	3	6

Complete the calculations.

a)		Th	Н	Т	0	
		3	2	7	0	
	-	1	3	2	0	

	Th	Н	Т	0	
	9	8	4	5	
_	1	9	2	1	

A car costs £8,716

A motorbike costs £2,341 less than the car.

How much does the motorbike cost?

What is the sum of the two numbers?

Annie is calculating 3,467 – 2,148

Here are her workings.

Do you agree with Annie? _____

Explain your answer.

The greater number is 6,410 The difference between the two numbers is 3,107

Subtract two 4-digit numbers – more than one exchange

Kim has made a number using base 10

Th	Н	т	0

a) Subtract 8 from Kim's number.

b) Explain the method you used.

- c) Subtract 20 from Kim's number.
- d) Subtract 900 from Kim's number.
- e) Complete the subtractions.

Use the place value chart to complete the subtractions.

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Look at your calculations in parts a), b) and c). What is the same? What is different?

What is the same? What is different?

Complete the calculations.

a) Th H Т 0 2 3 5 7 0 6 2 4 _

	Th	Н	Т	0	
	7	1	0	2	
_		3	9	8	

	Th	Н	Т	Ο	
	5	6	3	4	
_	2	7	4	5	

	Th	Н	т	0	
	5	0	0	0	
_	1	7	3	3	

A jug contains 1,500 ml of juice.

c)

d)

The juice is poured into 2 glasses. Each glass holds 258 ml of juice. How much juice is left in the jug?

Work out the missing digits.

Arrange all the digit cards to make a possible subtraction for each description.

- a) There are two exchanges. The answer is less than 2,000
- **b)** There are two exchanges. The answer is greater than 4,000

c) There are three exchanges.

b)		Th	Н	Т	0	
		4	0		3	
	_			3	8	
			8	4		

Efficient subtraction

3

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What do you notice?

Rosie and Amir have calculated 700 - 348 using different methods.

b) Rosie's method

	Н	Т	0	
	6	٩	٩	
_	3	4	8	
	3	5	1	

Use Rosie's method to work out 6,000 - 2,145

a) Use the column method to work out 704 – 696

	Η	Т	0	
	7	0	4	
_	6	9	6	

b) Count on the number line to work out 704 – 696

c) 2,027 – 1,999 =

c) Which method do you prefer? _____

Why?

Complete the subtractions by counting on.

a) Use column subtraction to complete the calculations.

	Th	Η	Т	0	
	6	0	0	0	
-	2	1	4	5	

351 + 1 = 352 so 700 - 348 = 352

c) Amir's method

	Н	Т	0	
	6	q	q	
_	3	4	7	
	3	5	2	

Use Amir's method to work out 6,000 - 2,145

d) Whose method do you prefer, Rosie's or Amir's?

Use the column method to work out the subtractions.

a) 500 - 341

b) 1,000 – 729

d) 10,000 mm - 7,302 mm

5 1,785 of the light bulbs are blue. How many bulbs are not blue? Eva is working out 7,385 - 1,999 7,385 - 2,000 = 5,385 7,385 - 1,999 = 5,386

before subtracting.

Estimate answers

Filip is working out 607 + 395

He rounds his numbers to the nearest hundred to estimate the answer.

a) Complete the sentences.

607 rounded to the nearest hundred is

Filip's estimate for the answer is

+

b) Use column addition to work out the actual answer.

	Th	Н	Т	0	
		6	0	7	
+		3	9	5	

The actual answer is

Alex is working out 7,958 - 6,103

Alex rounds her numbers to the nearest thousand to estimate the answer.

a) Complete the sentences.

7,958 rounded to the nearest thousand is

6,103 rounded to the nearest thousand is

Alex's estimate is

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b) Dani is estimating a subtraction calculation.

Her estimate is f600 - f100 = f500

Write three possible subtractions Dani could be estimating.

Complete the table. Show your workings.

Question	Estimated answer	Accurate answer
3,970 km – 1,850 km		
7,076 – 852		
7,076 – 652		
1,994 ml + 1,994 ml		

6

c) How accurate was your estimate?

Checking strategies

the			_

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Complete the fact family for the bar model.

Th

2

1

1

_

Н

4

3

1

Т

1

0

0

0

1

6

5

c)

4,5
2,160
+
+

Teddy is working out 5,671 + 325

	Th	Н	Т	0	
	5	6	7	1	
+	3	2	5		
	8	q	2	1	

Teddy checks his calculation using the same addition.

Is this a good idea? What mistake has Teddy made?

Circle the subtractions that can be used to check addition 271 + 516 = 787

787 – 271	516 – 271	271 – 787	787 – 516

- Circle the additions that can be used to check the subtraction 2,364 - 1,202 = 1,162
 - 2,364 + 1,202 1,162 + 1,202 1,202 + 1,162 2,364 + 1,162

3

Use an inverse operation to check these calculations.

a) Н Т 0 7 3 1 6 5 4 + 3 8 6

Match the inverse calculations.

Complete the calculations.

Use inverse operations to check your answers.

