Maths Planning and Ideas

Dedicated to Excellence

Week Commencing: Monday 02 11. 2020

Year Group: Year 4

	Monday	Tuesday	Wednesday	Thursday	Friday
Area of Learning	LC: Can you Subtract two 4-digit numbers - one exchange ?	LC:Can you Subtract two 4-digit numbers with more than one exchange?	LC: Can you choose a more efficient subtraction method?	LC: Can you estimate answers ?	LC: Can you use checking strategies?
Activity	Starter: Times Table Rockstars	Starter: Times Table Rockstars	Starter: Times Table Rockstars	Starter: Times Table Rockstars	Times Table Rockstars
	Main: Go to the following website: https://whiterosemaths.com/ Find and watch Subtract two 4-digit numbers - one exchange video. Pause if you need to take notes or replay sections to help with understanding. Independent Task: Children to complete worksheet found in resources.	Main: Go to the following website: https://whiterosemaths.com/ Find and watch Subtract two 4-digit numbers (more than one exchange) video. Pause if you need to take notes or replay sections to help with understanding. Independent Task: Children to complete worksheet found in resources.	Main: Go to the following websit https://whiterosemaths.com// Find and watch Efficient subtraction video. Pause if you need to take notes or replay sections to help with understanding. Independent Task: Children to complete worksheet found in resources.	Main: Go to the following website: https://whiterosemaths.com/ Find and watch Estimate answers video. Pause if you need to take notes or replay sections to help with understanding. Independent Task: Children to complete worksheet found in resources.	Main: Go to the following website: https://whiterosemaths.com/ Find and watch Checking strategies video. Pause if you need to take notes or replay sections to help with understanding. Independent Task: Children to complete worksheet found in resources.

Answers can be found resources.	in Answers can be found in resources.	Answers can be found in resources.	Answers can be found in resources.	Answers can be found in resources.
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Where can I complete further work?

<u>Twinkl</u> – Subscription service used by schools is offering a free premium service for teachers, parents and children to use whilst schools are closed. Enter the code **UKTWINKLHELPS** for access to worksheets, powerpoints and interactive games to support all areas of learning.

<u>Classroom Secrets</u> – Free Maths, Reading and Grammar home learning packs and interactive resources for all ages.

White Rose Maths – Free Maths home learning resources for all ages. Watch the videos and try the questions.

<u>Primary Stars</u> – Free Maths home learning packs for Year 1 and 2.

BBC Bitesize Primary – Free learning resources available for KS1 and KS2 across all subjects.

<u>I See Maths</u> – Free daily home maths lessons hosted by Gareth Metcalfe. Follow the link for videos, information and resources.

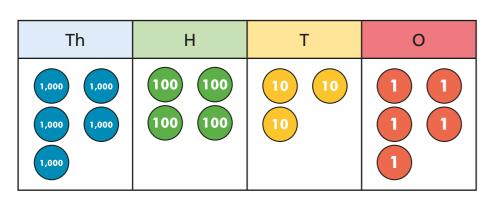
<u>Top Marks</u> – Free educational resources and games for English and Maths.

<u>ICT Games</u> – Free educational resources and games for English and Maths.

Subtract two 4-digit numbers – one exchange









b) Use the place value chart to complete the calculation.

- 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?

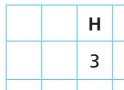
1 ten can be exchanged for ones.

1 hundred can be exchanged for 10 _

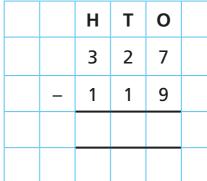
1 thousand can be exchanged for



Complete the calculations.



a)





)		Th	Н	Т	0
		7	6	7	3
	_		1	3	4

Complete the calculations.

a)

	Н	T	0	
	3	2	7	
_	1	3	2	

	Th	Н	Т	0	
	9	8	4	5	
_	2	3	6	0	

b)

	Th	Н	T	0	
	7	6	7	3	
_		2	8	1	



Complete the calculations.



	Th	Н	Т	0	
	3	2	7	0	
_	1	3	2	0	

c)		Th	Н	Т	0	
		9	8	4	5	
	_	1	9	2	1	

b)		Th	Н	Т	0	
		7	6	7	3	
	_		7	2	1	

Annie is calculating 3,467 – 2,148 Here are her workings.

	Th	Н	Т	0	
	3	4	6	7	
_	2	1	4	8	
	1	3	2	1	

Do you agree with Annie? _____

Explain your answer.

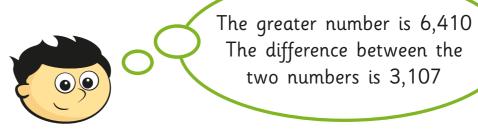


A car costs £8,716

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

How much does the motorbike cost?

Jack is thinking of two 4-digit numbers.



What is the sum of the two numbers?

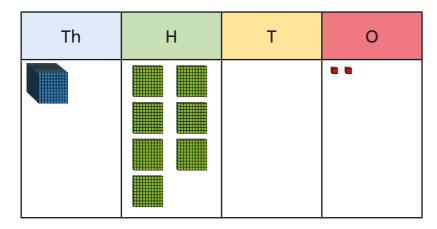




Subtract two 4-digit numbers – more than one exchange



Kim has made a number using base 10



a) Subtract 8 from Kim's number.

b) Explain the method you used.

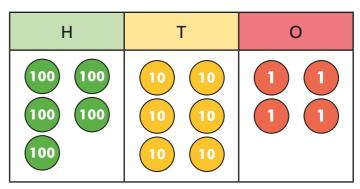
c) Subtract 20 from Kim's number.

d) Subtract 900 from Kim's number.

e) Complete the subtractions.

1,702 - 28 =

Use the place value chart to complete the subtractions.



Look at your calculations in parts a), b) and c).

What is the same? What is different?



Th	Н	Т	0	
1,000 1,000	100 100	10 10		

Look at your calculations in parts a), b) and c).

What is the same? What is different?









Complete the calculations.

a)

	Th	Н	Т	0	
	7	3	2	5	
_	2	4	0	6	

c)

	Th	Н	T	0	
	7	1	0	2	
_		3	9	8	

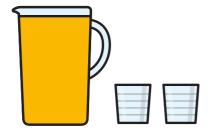
b)

	Th	Н	T	0	
	5	6	3	4	
_	2	7	4	5	

d)

	Th	Н	T	0	
	5	0	0	0	
_	1	7	3	3	

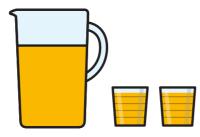
A jug contains 1,500 ml of juice.



The juice is poured into 2 glasses.

Each glass holds 258 ml of juice.

How much juice is left in the jug?



6	Work	out the	missing	diaits
ر ت	VVOIR	out the	1111331119	aigits

a)

		Th	Н	T	0	
		7			4	
	_	1	2	3		
			9	5	8	

b)

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

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



1









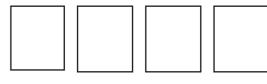
a) There are two exchanges.

The answer is less than 2,000

_		

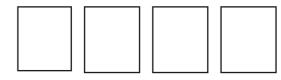
b) There are two exchanges.

The answer is greater than 4,000





c) There are three exchanges.







Efficient subtraction



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

	Н	T	0	
	7	0	4	
_	6	9	6	

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

L											┚
Г											7
69	5 69	96 6	97 69	98 69	99 70	00 70)1 70)2 7(03 70)4 7	05

c) Which method do you prefer? _____

Why?

Complete the subtractions by counting on.

3) Use column subtraction to complete the calculations.

	Н	T	0	
	7	0	0	
-	3	4	8	

	Th	Н	Т	0	
	6	0	0	0	
_	2	1	4	5	

What do you notice?

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

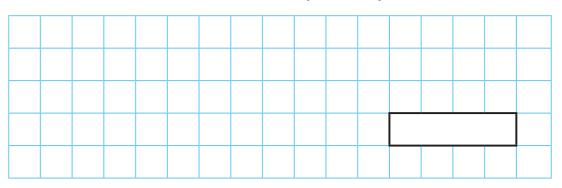
b) Rosie's method

	Н	Т		
	6	9	9	
_	3	4	8	
	3	5	1	

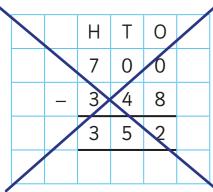
$$351 + 1 = 352$$

so $700 - 348 = 352$

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

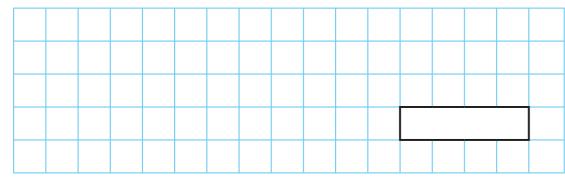


c) Amir's method

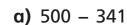


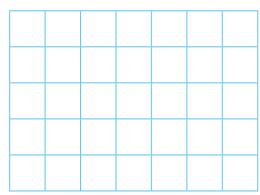
	Н	Τ	0	
	6	9	9	
_	3	4	7	
	3	5	2	

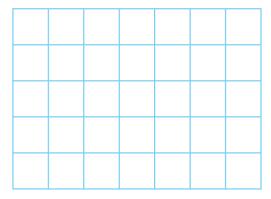
Use Amir's method to work out 6,000 - 2,145

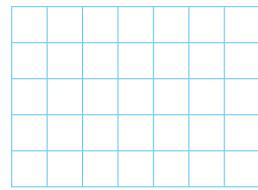


- d) Whose method do you prefer, Rosie's or Amir's?
- 4 Use the column method to work out the subtractions.











- A theme park has 3,002 light bulbs.
 - 1,785 of the light bulbs are blue.
 - How many bulbs are not blue?
 - Use a method where you subtract 3 from each number.

6 Eva is working out 7,385 – 1,999



I subtracted 2,000 from 7,385 and then added one on.

a) Explain why Eva's method works.

b)	Explain	a	different	method	that	Eva	could	have	used.
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The method should involve changing each number 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

395 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

2 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

_ =

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

	Th	Н	Т	0	
	7	9	5	8	
_	6	1	0	3	

The actual answer is

ver is

Mr Howell writes a subtraction on the board.



I estimate the answer will be close to 200 because 700 - 500 = 200

What mistake has Dora made?

Write a better estimate.



a) Tom is estimating an addition calculation.

His estimate is 3,000 + 1,000 = 4,000

Write three possible additions Tom could be estimating.

+ =

+ =

+ =



b) Dani is estimating a subtraction calculation.

Her estimate is f600 - f100 = f500

Write three possible subtractions Dani could be estimating.

	_	=	
	l		

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		

Whitney and Dexter are estimating the answer to 2,706 – 1,394
Whitney's estimate is $3,000 - 1,000 = 2,000$
Dexter's estimate is $2,700 - 1,400 = 1,300$
Whose estimate is more accurate?
Why?

7 A forest has 2,638 trees.



1,172 more trees are planted.

a) Use rounding to estimate the number of trees in the forest now.

b) Work out the actual number of trees in the forest.

- 1			
- 1			
- 1			
- 1			
- 1			

c) How accurate was your estimate?





Checking strategies



Circle the subtractions that can be used to check the 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

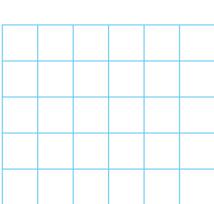
2,364 + 1,202 1,162 + 1,202 1,202 + 1,162 2,364 + 1,162

Use an inverse operation to check these calculations.

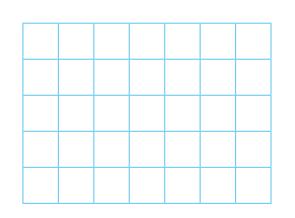
a)

	Н	Τ	0	
	3	7	1	
+	4	6	5	
	8	3	6	

b) 0 6 5 5 1



_						
c)		Th	Н	Т	0	
		2	4	1	1	
	_	1	3	0	6	
		1	1	0	5	



Complete the fact family for the bar model.

4,563		
2,160	2,403	

Teddy is working out 5,671 + 325

	Th	Н	Т	0	
	5	6	7	1	
+	3	2	5		
	8	9	2	1	

Teddy checks his calculation using the same addition.

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



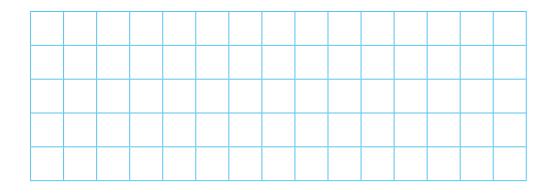
6 Match the inverse calculations.

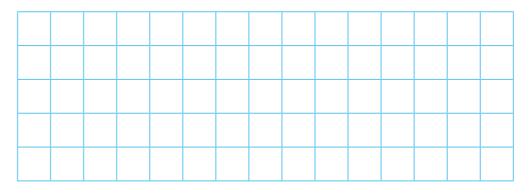
$$1,860 + 1,240 = 3,100$$

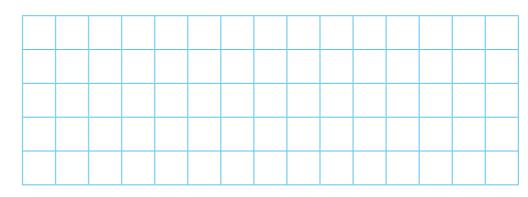
$$1,863 - 1,240 = 623$$

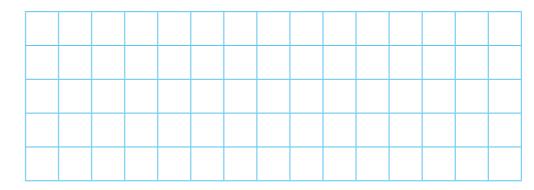
Complete the calculations.

Use inverse operations to check your answers.









Question	Answer
1	 a) 2,220 b) 2,219 c) Part a) was easier because we do not need to do an exchange. d) We need to do an exchange.
2	1 ten can be exchanged for 10 ones. 1 hundred can be exchanged for 10 tens. 1 thousand can be exchanged for 10 hundreds.
3	a)
4	a)

Question	Answer
5	a) Th H T O 223 12 7 0
6	No. She has found the difference between the numbers in each column rather than making an exchange.
7	£6,375
8	9,713

Question	Answer
1	 a) 1,694 b) 1 hundred was exchanged for 10 tens, and one of the tens was then exchanged for 10 ones. c) 1,682 d) 802 e) 1,702 - 28 = 1,674 1,702 - 928 = 774
2	 a) 210 b) 209 c) 199 All the numbers are subtracted from 564. In part a) no exchanges were made. In part b) one exchange was made. In part c) two exchanges were made.
3	 a) 3,399 b) 3,400 c) 3,401 2,036 is subtracted from all the numbers. In part a) 2 exchanges were made. In parts b) and c) no exchanges were made.
4	a) Th H T O 6 6 7 13 12 15 15 15 15 15 15 15 15 15 15 15 15 15
5	984 ml

<u>Y4 - Autumn - Block 2 - Step 7 - Subtract two 4-digit numbers - more than one exchange Answers (continued)</u>

Question	Answer							
	a)			Th	Н	Т	0	
				7	1	9	4	
			_	1	2	3	6	
				5	9	5	8	
6	b)			Th	Н	Т	0	
				4	0	8	3	
			-		2	3	8	
				3	8	4	5	
7	mul a) b) c)	2,3 7,6	53 40	- 1, - 2	06 ,35	4 1	SWE	

Question	Answer						
1	a) H T O 67 10 14						
2	a) 5 b) 8 c) 28						
3	a) H T O Th H T O 56 $^{\circ}$						
4	Children can choose the method they prefer. a) 159 b) 271 c) £218 d) 2,698 mm						
5	1,217						
6	 a) Eva is subtracting 1 less than 2,000 so she subtracts 2,000 than adds 1 back on. b) She could add 1 to each number, so the difference does not change, and calculate 7,386 - 2,000 c) 4,512 - 2,999 = 1,513 3,704 - 2,998 = 706 5,147 - 997 = 4,150 						

Y4 - Autumn - Block 2 - Step 8 - Efficient subtraction Answers (continued)

Questic	on Ans	Answer							
	a)			Th	Н	т	0		
				7	1	9	4		
			-	1	2	3	6		
				5	9	5	8		
6	b)			Th	Н	Т	0		
				4	0	8	3		
			_	7	2	3	8		
			+-	3	8	4	5		
				3	٥	4	3		
	mu	tipl	e po	ossi 1	ble	an	SWE		
7	a)								
· ·	b) c)								
	C)	7, 4	20	- 0	,00	ı			

Y4 - Autumn - Block 2 - Step 9 - Estimate answers Answers

Question	Answer							
1	a) 607 rounded to the nearest hundred is 600 395 rounded to the nearest hundred is 400 Filip's estimate for the answer is 600 + 400 = 1,000 b) Th H T 0 6 0 7 + 3 9 5 1 0 0 2 1 1 1 1 The actual answer is 1,002							
2	a) 7,958 rounded to the nearest thousand is 8,000 6,103 rounded to the nearest thousand is 6,000 Alex's estimate is 8,000 - 6,000 = 2,000 b) Th H T 0 7 9 5 8 - 6 1 0 3 1 8 5 5 The actual answer is 1,855							
3	Dora has rounded 795 to 700 instead of 800 800 - 500 = 300							
4	a) multiple possible answers, e.g.: $2,999 + 999 = 3,998$ $3,076 + 1,200 = 4,276$ $2,621 + 1,334 = 3,955$ b) multiple possible answers, e.g.: $£601 - £107 = £494$ $£649 - £130 = £519$ $£550 - £72 = £478$							

Y4 - Autumn - Block 2 - Step 9 - Estimate answers Answers (continued)

Question	Answer									
	Question	Estimated answer	Accurate answer							
	3,970 km – 1,850 km	4,000 – 2,000 = 2,000 km	2,120 km							
5	7,076 – 852	7,000 - 1,000 = 6,000	6,224							
5	7,076 – 652	7,000 - 1,000 = 6,000	6,424							
	1,994 ml + 1,994 ml	2,000 + 2,000 = 4,000 ml	3,988 ml							
6	Dexter He has rounded to the nearest hundred, which is more accurate than rounding to the nearest thousand.									
7	 a) Answers will vary depending on whether rounding to nearest thousand or nearest hundred. 3,000 + 1,000 = 4,000 or 2,600 + 1,200 = 3,800 b) 3,810 c) Comments will vary depending on whether children rounded to the nearest thousand or the nearest hundred. 									

Question	Answer							
1	787 – 271 516 – 271 271 – 787 787 – 516							
2	2,364 + 1,202							
	a) 78136 -371 or -465 371 b)							
3	1 5 2 + 1 5 2 5 6 7 5 6 7							
	c) 1 1 0 5 + 1 3 0 6 2 4 1 1 1 1 0 5							
4	2,160 + 2,403 = 4,563 2,403 + 2,160 = 4,563 4,563 - 2,160 = 2,403 4,563 - 2,403 = 2,160							
5	No, he should check his calculation with a subtraction. He has not lined up the digits correctly.							
6	623 + 1,240 = 1,863 2,483 - 623 = 1,860 1,860 + 1,240 = 3,100 2,483 + 617 = 3,100 1,860 + 623 = 2,483 3,100 - 1,860 = 1,240 3,100 - 2,483 = 617 617 + 1,866 = 2,483 1,863 - 1,240 = 623							

Y4 - Autumn - Block 2 - Step 10 - Checking strategies Answers (continued)

Question	Answer
7	a) 777 b) 1,822 c) 4,252 d) 5,275