

Reasoning and Problem Solving

Subtract Whole Numbers with More than Four Digits

National Curriculum Objectives:

Mathematics Year 5: (5C2) Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Find the missing counters and digits in a subtraction. Includes subtracting 5-digit numbers from 5-digit numbers. No exchanging or use of zero as a placeholder. Includes visual representations.

Expected Find the missing digits in a subtraction. Includes subtracting 5-digit numbers from 5-digit numbers. Includes exchanging and some use of zero as a placeholder. Includes column method.

Greater Depth Find the missing digits in a subtraction. Includes subtracting 5-digit numbers from 5-digit numbers. Includes exchanging and use of zero as a placeholder. Includes use of linear representations for subtractions.

Questions 2, 5 and 8 (Problem Solving)

Developing Complete a subtraction with missing digits using digit cards. Subtracting 5-digit numbers from 5-digit numbers. No exchanging or use of zero as a placeholder. Includes use of visual representations.

Expected Complete a subtraction with missing digits using digit cards. Subtracting 5-digit numbers from 5-digit numbers. Includes exchanging and some use of zero as a placeholder. Includes use of column subtraction.

Greater Depth Complete a subtraction with missing digits using digit cards. Subtracting 5-digit numbers from 5-digit numbers. Includes exchanging and use of zero as a placeholder. Includes use of linear representations of subtractions.

Questions 3, 6 and 9 (Reasoning)

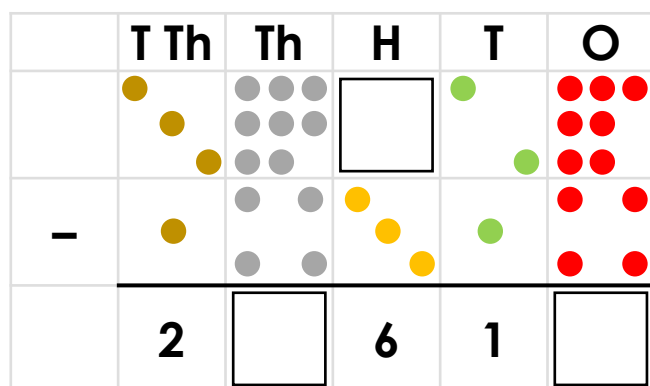
Developing Find and explain the mistake/s in a column subtraction. Includes subtracting 5-digit numbers from 5-digit numbers. No exchanging or use of zero as a placeholder. Includes use of visual representations.

Expected Find and explain the mistake/s in a column subtraction. Includes subtracting 5-digit numbers from 5-digit numbers. Includes exchanging and use of zero as a placeholder. Includes use of column subtractions.

Greater Depth Find and explain the mistake/s in a column subtraction. Includes subtracting 5-digit numbers from 5-digit numbers. Includes exchanging and examples of unconventional partitioning. Some numbers written in words.

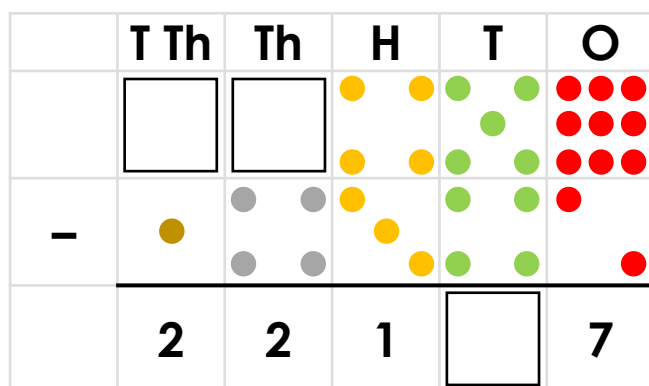
Subtract Whole Numbers with More than Four Digits

1a. Find the missing counters and digits in the subtraction.



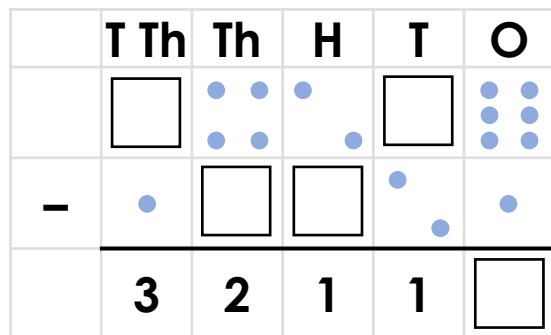
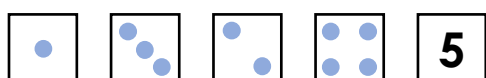
PS

1b. Find the missing counters and digits in the subtraction.



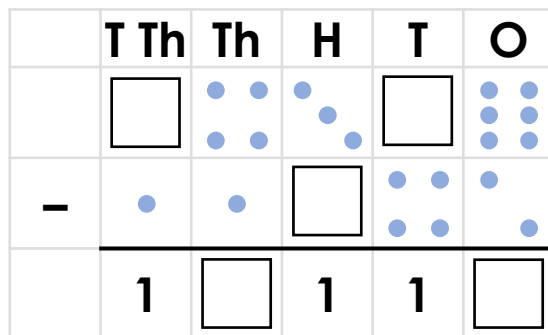
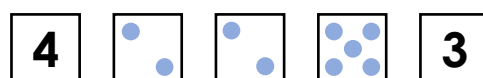
PS

2a. Use the counter and digit cards to complete the subtraction.



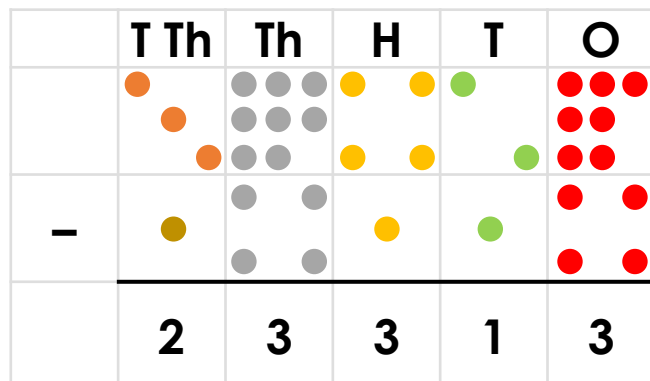
PS

2b. Place the missing counters and digits to complete the calculation below.



PS

3a. Alf has used column method to complete the subtraction below.

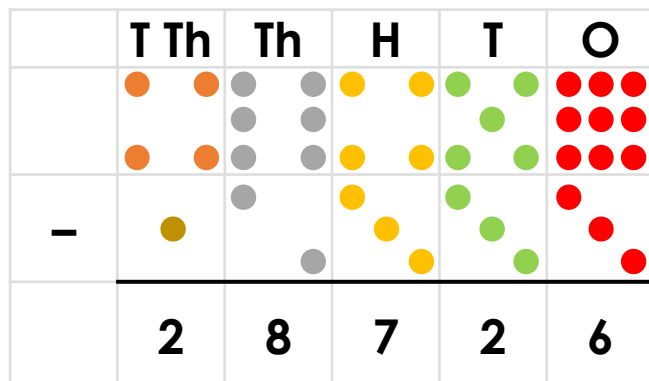


Is he correct? Explain why.



R

3b. Tia has used column method to complete the subtraction below.



Is she correct? Explain why.



R

Subtract Whole Numbers with More than Four Digits

4a. Find the missing digits in the subtraction.

	3		9	6	3
-	1	9	5	4	
		0	4	1	6



PS

4b. Find the missing digits in the subtraction.

		8	5	2	7
-	2	4	1		3
	2	4		3	4



PS

5a. Use the digit cards to complete the subtraction.

		7		1	
-	5		8		3
	1	0	3	9	6

2	6	9	6	2
---	---	---	---	---



PS

5b. Use the digit cards to complete the subtraction.

	4		3	5	
-		9	2		1
	2	9		7	5

8	6	0	8	1
---	---	---	---	---



PS

6a. Kai has used column method to answer the subtraction below.

	² 3	¹ 2	¹ 0	4	3
-	1	0	8	4	2
	1	1	2	1	1

Is he correct? Explain why.



R

6b. Leah has used column method to answer the subtraction below.

	5	¹ 0	5	2	7
-	2	2	1	0	3
	3	9	4	0	4

Is she correct? Explain why.



R

Subtract Whole Numbers with More than Four Digits

7a. Find the missing digits in the subtraction.

$$61,2\text{GD} - 17,984 = \text{GD},273$$



PS

7b. Find the missing digits in the subtraction.

$$\text{GD},402 - 17,\text{GD} = 12,752$$



PS

8a. Use the digit cards to complete the subtraction.

$$\text{GD},248 - 12,\text{GD}04 = 42,4\text{GD}$$

8 4 5 5 4



PS

8b. Use the digit cards to complete the subtraction.

$$\text{GD}1,300 - 28,6\text{GD} = 4\text{GD},\text{GD}98$$

0 2 6 2 7



PS

9a. Tim has used column method to answer a subtraction and has written it out below.

8 ten thousands, 200 tens and 9 ones subtract 37 thousands, 98 tens and 3 ones equals 42 thousands, 220 tens and 7 ones.

Is he correct? Explain why.



R

9b. Ava has used column method to answer a subtraction and has written it out below.

500 hundreds, 8 tens and 0 ones subtract 2 ten thousands, 9 thousands and 826 ones equals 200 hundreds, 26 tens and 3 ones.

Is she correct? Explain why.



R

Subtract Whole Numbers with More than Four Digits

Developing

1a. $38,927 - 14,314 = 24,613$

2a. $44,236 - 12,121 = 32,115$

3a. Alf is incorrect. He has subtracted the thousands columns incorrectly. The correct answer should be 24,313.

Expected

4a. $39,963 - 19,547 = 20,416$

5a. $67,219 - 56,823 = 10,396$

6a. Kai is incorrect. He has subtracted the tens and ten thousands columns incorrectly. The correct answer should be 21,201.

Greater Depth

7a. $61,257 - 17,984 = 43,273$

8a. $55,248 - 12,804 = 42,444$

9a. Tim is incorrect. He has subtracted the ones, hundreds and thousands columns incorrectly. The correct answer should be 44,026.

Developing

1b. $36,459 - 14,342 = 22,117$

2b. $24,356 - 11,242 = 13,114$

3b. Tia is incorrect. She has added the hundreds and thousands columns instead of subtracting. She has also subtracted the ten thousands column incorrectly. The correct answer should be 34,126.

Expected

4b. $48,527 - 24,193 = 24,334$

5b. $48,356 - 19,281 = 29,075$

6b. Leah is incorrect. She has subtracted the tens and thousands columns incorrectly. She has also forgotten to change the 5 to a 4 in the ten thousands column after exchanging. The correct answer should be 28,424.

Greater Depth

7b. $30,402 - 17,650 = 12,752$

8b. $71,300 - 28,602 = 42,698$

9b. Ava is incorrect. She has subtracted the ones and tens columns incorrectly. The correct answer should be 20,254.