

Reasoning and Problem Solving

Step 2: Add Two 4-Digit Numbers 1

Teaching note: In the Expected and Greater Depth levels, 3-digit numbers have been included to ensure that children have a secure understanding of place value and have the opportunity to address any misconceptions that may arise.

National Curriculum Objectives:

Mathematics Year 4: (4C2) [Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Add counters or digits to the spaces to complete the column addition. Adding two 4-digit numbers with no exchange. Pictorial support for all questions, including place value grids.

Expected Add digits to the spaces to complete the column addition. Adding two 4-digit numbers with no exchange. Calculations presented in a column format. Using place value counters to support calculations.

Greater Depth Add digits to the spaces to complete the addition. Calculations presented in linear format.

Questions 2, 5 and 8 (Problem Solving)

Developing Use counters to complete the place value chart. Adding two 4-digit numbers with no exchange.

Expected Use the digit cards to complete the part whole model. Adding two 4-digit numbers with no exchange. Using place value counters to support calculations.

Greater Depth Use the digit cards to complete the bar model. Adding a 3-digit number to a 4-digit number or adding a 4-digit number to a 4-digit number with no exchange.

Questions 3, 6 and 9 (Reasoning)

Developing Explain if the calculation is correct. Adding two 4-digit numbers with no exchange. Pictorial support for all questions, including place value grids.

Expected Explain if the calculation is correct. Adding two 4-digit numbers with no exchange. Calculations presented in a column format. Using place value counters to support calculations.

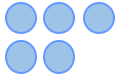
Greater Depth Explain if the calculation is correct. Adding two 4-digit numbers with no exchange. Calculations presented in a linear format.

More [Year 4 Addition and Subtraction](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Add Two 4-Digit Numbers 1

1a. Find 3 different number sentences to complete this calculation.

Th	H	T	O
			
5	9	4	7



PS

Add Two 4-Digit Numbers 1

1b. Find 3 different number sentences to complete this calculation.

Th	H	T	O
			
4	3	6	4



PS

2a. Use counters to complete the place value chart adding two 4-digit numbers. You can use the counters multiple times.

1,000

100

10

1

Th	H	T	O
4	3	2	5



PS

2b. Use counters to complete the place value chart adding two 4-digit numbers. You can use the counters multiple times.

1,000

100

10

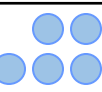
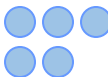
1

Th	H	T	O
6	7	8	3



PS

3a. Has Tomas made a mistake in the calculation below?

Th	H	T	O
			
			
5	7	7	9

Prove it.



R

3b. Has Chantelle made a mistake in the calculation below?

Th	H	T	O
			
			
7	6	3	6

Prove it.



R

Add Two 4-Digit Numbers 1

4a. Find 3 different number sentences to complete this calculation.

	2	5	4	
+				
	5	5	7	6



PS

Add Two 4-Digit Numbers 1

4b. Find 3 different number sentences to complete this calculation.

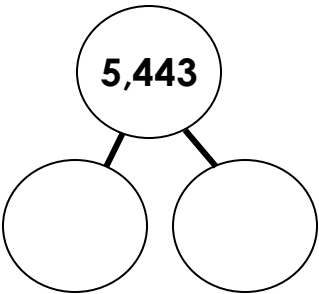
+		2	4	3
	7	5	6	5



PS

5a. Use the digit cards below to create a part whole model adding two 4-digit numbers. You can use the digit cards multiple times.

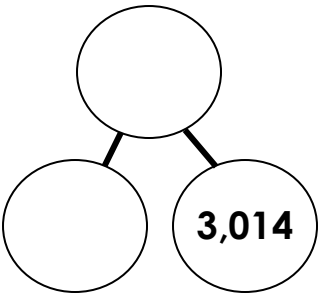
0	1	2	3	4
---	---	---	---	---



PS

5b. Use the digit cards below to create a part whole model adding two 4-digit numbers. You can use the digit cards multiple times.

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



PS

6a. Has Asha made a mistake in the calculation below?

	5	3	2	1
+	2	4	2	1
	7	6	4	2

Prove it.



R

6b. Has Kenny made a mistake in the calculation below?

	6	2	3	2
+	1	3	5	5
	6	5	8	7

Prove it.



R

Add Two 4-Digit Numbers 1

Add Two 4-Digit Numbers 1

7a. Find 3 different number sentences to complete this calculation.

$$4,31__ + _, _____ = 6,519$$



PS

7b. Find 3 different number sentences to complete this calculation.

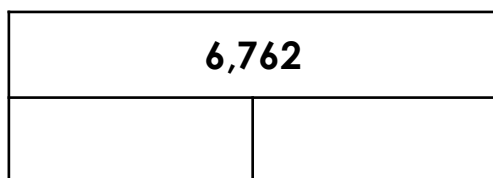
$$_, _____ + _, 723 = 5,956$$



PS

8a. Use the digit cards below to create a bar model adding two 4-digit numbers. You can use the digit cards multiple times.

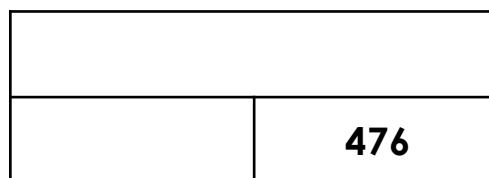
0	1	2	3	4
---	---	---	---	---



PS

8b. Use the digit cards below to create a bar model adding a 3-digit number to a 4-digit number. You can use the digit cards multiple times.

1	2	3	6	9
---	---	---	---	---



PS

9a. Has Mattius made a mistake in the calculation below?

$$5,721 + 227 = 5,906$$

Prove it.



R

9b. Has Joss made a mistake in the calculation below?

$$4,301 + 3,211 = 7,612$$

Prove it.



R

Reasoning and Problem Solving

Add Two 4-Digit Numbers 1

Developing

1a. Various answers, for example: $4,530 + 1,417$; $4,531 + 1,416$; $4,532 + 1,415$; $4,533 + 1,414$; $4,534 + 1,413$.

2a. Various answers, including: $1,210 + 3,115 = 4,325$; $1,211 + 3,114 = 4,325$; $1,212 + 3,113 = 4,325$; $1,213 + 3,112 = 4,325$; $2,211 + 2,114 = 4,325$.

3a. Yes, Asha has made a mistake as she has added one too many ones. The answer should be 5,778.

Expected

4a. Various answers, for example: $2,546 + 3,030$; $2,545 + 3,031$; $2,544 + 4,032$; $2,543 + 3,033$; $2,542 + 3,034$; $2,541 + 4,035$; $2,540 + 3,036$.

5a. Various answers, including: $1,230 + 4,213 = 5,443$; $1,231 + 4,212 = 5,443$; $1,232 + 4,211 = 5,443$; $1,233 + 4,210 = 5,443$; $2,230 + 3,213 = 5,443$.

6a. Yes, Thomas has made a mistake as he has not added 300 to 400 accurately. The answer should be 7,742.

Greater Depth

7a. Various answers, for example: $4,310 + 2,209$; $4,311 + 2,208$; $4,312 + 2,207$; $4,313 + 2,206$; $4,314 + 2,205$.

8a. Various answers, including: $4,441 + 2,321 = 6,762$; $3,441 + 3,321 = 6,762$; $2,441 + 4,321 = 6,762$; $3,430 + 3,332 = 6,762$; $3,432 + 3,330 = 6,762$.

9a. Yes, Mattius has made a mistake as he has not added the digits accurately. The answer should be 5,948.

Reasoning and Problem Solving

Add Two 4-Digit Numbers 1

Developing

1b. Various answers, for example: $3,221 + 1,143$; $2,221 + 2,143$; $1,221 + 3,143$.

2b. Various answers, including: $1,442 + 5,341 = 6,783$; $2,442 + 4,341 = 6,783$; $3,442 + 3,341 = 6,783$; $4,442 + 2,341 = 6,783$; $5,442 + 1,341 = 6,783$.

3b. No, Kenny has not made a mistake.

Expected

4b. Various answers, for example: $6,322 + 1,243$; $5,322 + 2,243$; $4,322 + 3,243$; $3,322 + 4,243$; $2,322 + 5,243$; $1,322 + 6,243$; $322 + 7,243$.

5b. Various answers, including: $1,241 + 3,014 = 4,255$; $1,341 + 3,014 = 4,355$; $1,441 + 3,014 = 4,455$; $1,541 + 3,014 = 4,555$;

6b. Yes, Chantelle has made a mistake as she has not added 1,000 to 6,000. The answer should be 7,587.

Greater Depth

7b. Various answers, for example: $3,233 + 2,723$; $4,233 + 1,723$; $1,233 + 4,723$; $2,233 + 3,723$.

8b. Various answers, including: $1,223 + 476 = 1,699$; $2,223 + 476 = 2,699$; $3,223 + 476 = 3,699$; $6,223 + 476 = 6,699$; $9,223 + 476 = 9,699$.

9b. Yes, Joss has made a mistake as she has not added 300 to 200 correctly. The answer should be 7,512.