

Reasoning and Problem Solving

Step 1: Add and Subtract Multiples of 100

National Curriculum Objectives:

Mathematics Year 3: (3C1) [Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Find the possible calculations using multiples of 100 up to 1,000. Use of concrete manipulatives only; questions represented using Base 10.

Expected Find the possible calculations using multiples of 100 up to 1,000. Using a variety of manipulatives. Numbers presented as numerals and some words.

Greater Depth Find the possible calculations using multiples of 100 up to 1,000. No images given for support. Numbers presented as numerals or words.

Questions 2, 5 and 8 (Problem Solving)

Developing Find all the possible values of $A + B$ within a number sentence, when adding and subtracting multiples of 100 up to 1,000. Use of concrete manipulatives only; questions represented using Base 10.

Expected Find all the possible values of $A + B$ within a number sentence, when adding and subtracting multiples of 100 up to 1,000. Using a variety of manipulatives. Numbers presented as numerals and some words.

Greater Depth Find all the possible values of $A, B + C$ within a number sentence, when adding and subtracting multiples of 100 up to 1,000. No images given for support. Numbers presented as numerals or words.

Questions 3, 6 and 9 (Reasoning)

Developing Explain who is correct using knowledge of adding and subtracting multiples of 100 up to 1,000. Use of concrete manipulatives only; questions represented using Base 10.

Expected Explain who is correct using knowledge of adding and subtracting multiples of 100 up to 1,000. Using a variety of manipulatives. Numbers presented as numerals and some words.

Greater Depth Explain who is correct using knowledge of adding and subtracting multiples of 100 up to 1,000. No images given for support. Numbers presented as numerals or words.

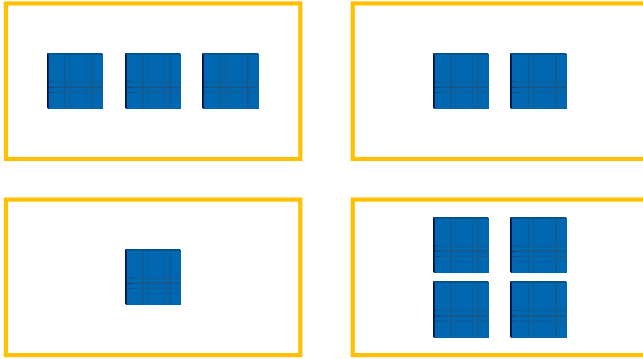
More [Year 3 Addition and Subtraction](#) resources.

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Add and Subtract Multiples of 100

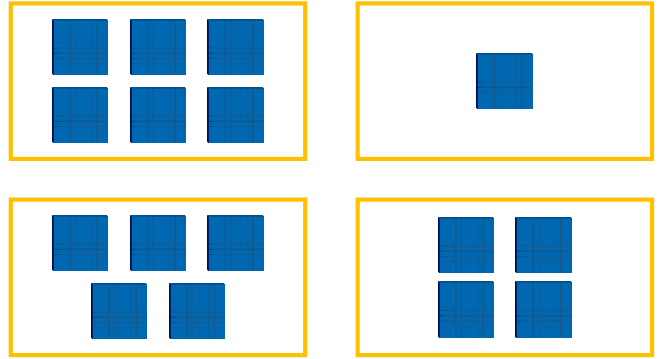
Add and Subtract Multiples of 100

1a. Use these cards to find all of the possible addition equations that will equal 1,000 or less.



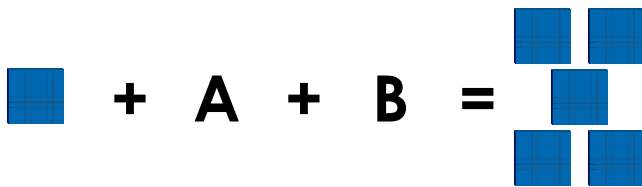
PS

1b. Use these cards to find all of the possible subtraction equations that will equal 100 or more.



PS

2a. Find all of the possible values for A and B, where A and B are multiples of 100.



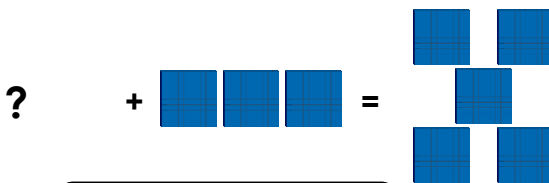
PS

2b. Find all of the possible values for A and B, where A and B are multiples of 100.



PS

3a. Kira and Cristal are adding multiples of 100.



Kira

The missing number is 200.

The missing number is 800.



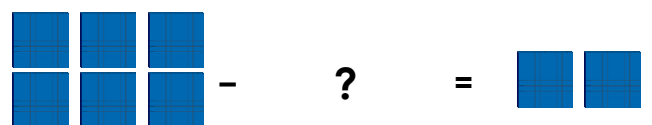
Cristal

Who is correct? Explain how you know.



R

3b. Hugh and Cole subtracting multiples of 100.



Hugh

The missing number is 800.

The missing number is 400.



Cole

Who is correct? Explain how you know.



R

Add and Subtract Multiples of 100

Add and Subtract Multiples of 100

4a. Use these cards to find all of the possible addition equations that will equal 1,000 or less.

		400
	one hundred	



PS

4b. Use these cards to find all of the possible subtraction equations that will equal 100 or more.

four hundreds		
	300	



PS

5a. Find all of the possible values for A and B, where A and B are multiples of 100.

$$\begin{array}{c} 100 \\ 100 \\ 100 \end{array} + A - B = 600$$



PS

5b. Find all of the possible values for A and B, where A and B are multiples of 100.

$$\text{nine hundreds} - A + B = \begin{array}{cc} \blacksquare & \blacksquare \\ \blacksquare & \blacksquare \end{array}$$



PS

6a. Sarah and Jane are subtracting multiples of 100.

$$\begin{array}{ccc} \blacksquare & \blacksquare & \blacksquare \\ \blacksquare & \blacksquare & \blacksquare \end{array} = ? - \text{one hundred}$$



Sarah

The missing number is 500.



Jane

The missing number is 700.

Who is correct? Explain how you know.



R

6b. Peter and Enzo are adding multiples of 100.

$$\begin{array}{ccc} 100 & 100 & 100 \\ & 100 & 100 \\ 100 & 100 & 100 \end{array} = \text{five hundreds} + ?$$



Peter

The missing number is 300.



Enzo

The missing number is 900.

Who is correct? Explain how you know.



R

Add and Subtract Multiples of 100

Add and Subtract Multiples of 100

7a. Use these cards to find all of the possible subtraction equations that will equal 100 or more.

900	500	seven hundreds
100	two hundreds	200



PS

7b. Use these cards to find all of the possible addition equations that will equal 1,000 or less.

two hundreds	600	one thousand
200	one hundred	400



PS

8a. Find all of the possible values for A, B and C, where A, B and C are multiples of 100.

$$100 + A - B + C = 300$$



PS

8b. Find all of the possible values for A, B and C, where A, B and C are multiples of 100.

$$300 + A - B - C = 600$$



PS

9a. Ashley and Kendal are adding multiples of 100.

$$1,000 = ? + 600$$



Ashley

The missing number is three hundreds.

The missing number is four hundreds.



Kendal

Who is correct? Explain how you know.



R

9b. Alan and Emmet are subtracting multiples of 100.

$$\text{nine hundreds} = \text{one thousand} - ?$$



Alan

The missing number is 100.

The missing number is 200.



Emmet

Who is correct? Explain how you know.



R

Reasoning and Problem Solving Add and Subtract Multiples of 100

Developing

- 1a. Various answers, for example: $100 + 200 = 300$; $200 + 100 = 300$; $300 = 100 + 200$; $100 + 300 = 400$
- 2a. $A = 100$, $B = 300$; $A = 200$, $B = 200$; $A = 300$, $B = 100$
- 3a. Kira is correct because $200 + 300 = 500$

Expected

- 4a. Various answers, for example: $500 + 300 = 800$, $800 = 500 + 300$, $100 + 200 = 300$, $200 + 100 = 300$, $100 + 300 = 400$, $800 = 100 + 300 + 400$
- 5a. $A = 400$, $B = 100$; $A = 500$, $B = 200$; $A = 600$, $B = 300$; $A = 700$, $B = 400$
- 6a. Jane is correct because $700 - 100 = 600$

Greater Depth

- 7a. Various answers, for example: $900 - 700 = 200$; $500 - 200 - 100 = 200$; $200 = 900 - 200 - 500$; $700 - 200 = 500$
- 8a. Various answers, for example: $A = 900$, $B = 1,000$, $C = 300$; $A = 900$, $B = 900$, $C = 200$; $A = 900$, $B = 800$, $C = 100$; $A = 800$, $B = 900$, $C = 300$
- 9a. Kendal is correct because $600 + 400 = 1,000$

Reasoning and Problem Solving Add and Subtract Multiples of 100

Developing

- 1b. Various answers, for example: $500 - 100 = 400$; $500 - 400 = 100$; $100 = 500 - 400$; $600 - 100 = 500$
- 2b. $A = 100$, $B = 500$; $A = 200$, $B = 400$; $A = 300$, $B = 300$; $A = 400$, $B = 200$; $A = 500$, $B = 100$
- 3b. Cole is correct because $600 - 400 = 200$

Expected

- 4b. Various answers, for example: $700 - 400 = 300$, $700 - 500 = 200$, $400 = 700 - 300$, $100 = 700 - 400 - 200$, $500 - 400 = 300$
- 5b. $A = 900$, $B = 400$; $A = 800$, $B = 300$; $A = 700$, $B = 200$; $A = 600$, $B = 100$
- 6b. Peter is correct because $500 + 300 = 800$

Greater Depth

- 7b. Various answers, for example: $600 + 400 = 1,000$; $400 = 200 + 200$; $200 + 200 = 400$; $1,000 = 200 + 200 + 600$
- 8b. Various answers; for example: $A = 700$, $B = 100$, $C = 300$; $A = 700$, $B = 200$, $C = 200$; $A = 700$, $B = 300$, $C = 100$; $A = 600$, $B = 100$, $C = 200$
- 9b. Alan is correct because $1,000 - 100 = 900$