



Maths Knowledge Organiser

Year 4: Addition and Subtraction

Prior Knowledge (Y3 Unit 2, 3)

- Adding and subtracting a 3-digit number and; 1s, 10s, 100s
- Use formal written methods of columnar addition and subtraction
- Estimate the answer to a calculation and use inverse to check answers
- Solve addition and subtraction problems

Structures and Representations

Place Value Grid

Th	H	T	O
●●●●	●●●●	●●●●	●●●●
●		●●●●	●●●●

Part-whole Model

Bar Model

Danny 899 \longleftrightarrow ?

Luis 1,005

- addition, subtraction
- Total
- more than, less than
- difference, exchange
- column method
- estimate, accurate,
- efficient, exact
- Strategy
- diagram

Add 4-digit Numbers

Starting with the ones, add each column in turn. If the total adds to more than 9, carry digits to the next column.

TTh	Th	H	T	O
4	4	5	3	+
4	5	2	7	
<hr/>				
			0	

Carry the 1 to the next column

TTh	Th	H	T	O
4	4	5	3	+
4	5	2	7	
<hr/>				
			8	0

Include the 1 in your next addition

TTh	Th	H	T	O
4	4	5	3	+
4	5	2	7	
<hr/>				
			8	0

1

Subtract 4-digit Numbers

Start from the ones, subtract each column in turn.

4	6	3	-
4	5	2	7
<hr/>			
		6	

3 - 7 would give us a negative number, so we re-group.

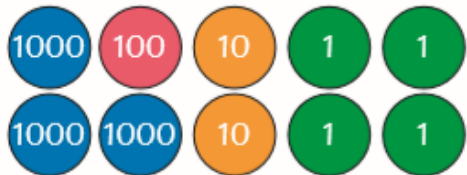
Exchange one 10, so we now have 13 - 7 = 6

4	6	5	3	-
4	5	2	7	
<hr/>				
0	1	2	6	



Add/Subtract 1s, 10s, 100s, 1000s

Here is the number 3124



Add 2 thousands = 5124

Add 5 hundreds = 5624

Subtract 2 tens = 5604

Add 5 ones = 5609

Here is the number 6708

Thousands	Hundreds	Tens	Ones
6	7	0	8

Add 3 thousands = 9708

Subtract 4 hundreds = 9308

Add 5 tens = 9358

Subtract 7 ones = 9351

Crossing ones, tens or hundreds

$5392 + 4 \text{ tens} = 5432$ crossing tens

$5126 - 600 = 4526$ crossing hundreds

When crossing ones, tens or hundreds, more than one digit will change.

Round to Estimate

Using rounding to estimate:

$$3,127 + 2,953$$

$$3,000 + 3,000 = 6,000$$

$$3,127 + 2,953 = 6,080 \checkmark$$

Solve 2-Step Problems



Morgan has a jar of 957 sweets and a second jar containing 837 sweets. She combines the two jars together and then gives 345 to her sister. How many is she left with?

Step 1:

Look at the words used. 'Combine' would mean adding.

$$957 + 837 = 1794$$

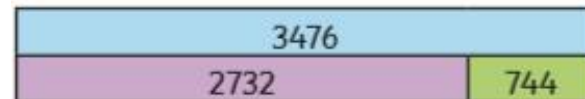
Step 2:

'Gives' then suggests subtraction.

$$1794 - 345 = 1,449$$

Checking Strategies

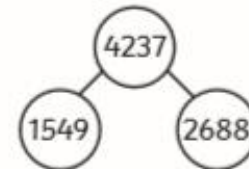
Using Inverse



$3476 - 744 = 2732$ can be checked using

$$2732 + 744 = 3476$$

This part whole shows the inverse calculations using these three numbers.



$1549 + 2688 = 4237$	$2688 + 1549 = 4237$
$4237 - 1549 = 2688$	$4237 - 2688 = 1549$

Adding in a different order

$$420 + 372 + 280 =$$

Change to

$$420 + 280 + 372 =$$

$$\text{As } 420 + 280 = 700$$

(because $42 + 28 = 70$)

$$420 + 280 + 372 = 700 + 372 = 1072$$