



# Addition and subtraction Y3

## MATHS KNOWLEDGE ORGANISER

ESSENTIAL VOCABULARY	
<b>Add/plus/sum/altogether</b>	The method of combining the total of two or more numbers.
<b>Subtract/difference/less</b>	The method of taking a value away from a number.
<b>Total</b>	The answer/finished sum.
<b>Column addition</b>	Formal method to solve addition questions.
<b>Column subtraction</b>	Formal method to solve subtraction questions.
<b>Exchange</b>	Regrouping means to exchange 10 of a particular place value column for 1 of the next place value column along.
<b>Estimate</b>	Round numbers to nearest 10, 100 or 1000 to suggest a reasonable answer.
<b>Inverse operation</b>	Addition and subtraction can be used as inverse operations to solve missing number questions.

### Useful Diagrams

#### 3 digit and 1 digit numbers

Not crossing 10s  
 $268 - 4 = 264$

Hundred	Ten	Ones
2	6	8

$343 + 6 = 349$

Crossing 10s (Exchanging)

324		
300	20	4
300	10	14

$316 + 8 = 324$

316	8
316	8

$324 - 8 = 316$

#### 3-digit and 2-digit numbers

Add and subtract tens

Hundred	Ten	Ones
4	3	

$451 + 3 \text{ tens} = 481$  ( $5 + 3 = 8$ )  
 $451 - 4 \text{ tens} = 411$  ( $5 - 4 = 1$ )

Crossing 10s (Exchanging)

$258 + 80 = 338$

- Column method
- Count in 10s mentally
- Add 100, subtract 20

Crossing 10 and 100

<del>368</del>	<del>368</del>	<del>368</del>
+73	+73	+73
1	41	441
1	10	01

<del>3131</del>	<del>3131</del>	<del>3131</del>
-73	-73	-73
8	68	368

#### 3-digit numbers

Not crossing

$679 - 351 = 328$

Hundred	Ten	Ones
6	7	9

Crossing 10s (Exchanging)

?	269	
154	269	

$269 + 154 = 423$

$423 - 11 = 412$

$4101$

514	
268	?

$514 - 268 = 246$

#### Add and Subtract 100s

$284 + 300 = 584$

Hundred	Ten	Ones
2	8	4

### LINKS TO PREVIOUS LEARNING

- Solve problems with addition and subtraction using concrete objects and pictorial representations.
  - Apply their knowledge of mental and written methods
- Recall and use addition and subtraction facts to 20 fluently and use related facts up to 100.
- Add and subtract numbers using concrete objects including, a 2-digit number and 1s, a 2-digit number and 10s and two 2-digit numbers as well as adding 3 one-digit numbers.
- Show that addition of 2 numbers can be done in any order and subtraction of 1 number from another cannot.
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

### Stem Sentences

I have \_\_\_\_\_. I have \_\_\_\_\_. Altogether I have \_\_\_\_\_.

I have \_\_\_\_\_. I have subtracted \_\_\_\_\_. Altogether I have \_\_\_\_\_.

### Key Themes

- Whole part model
- Rounding to estimate
- Column subtraction/addition
- Mental addition/subtraction
- Number bonds/complements
- Doubles/near doubles

### Checking answers

347	
273	74

$347 - 74 = 273$  can be checked using  
 $273 + 74 = 347$

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

$154 + 269 = 423$	$269 + 154 = 423$
$423 - 154 = 269$	$423 - 269 = 154$