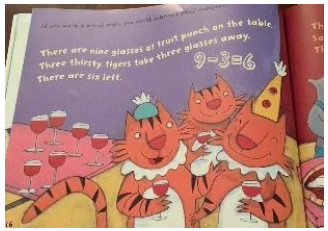
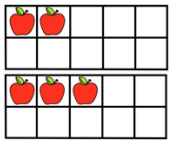
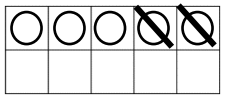
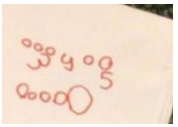
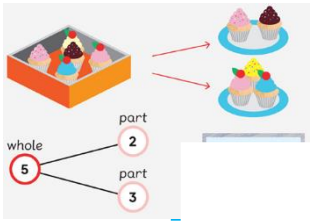
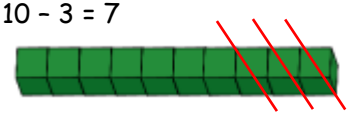
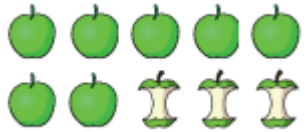
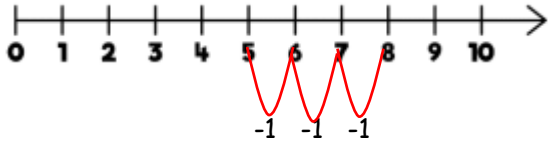
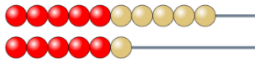
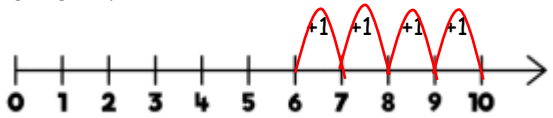
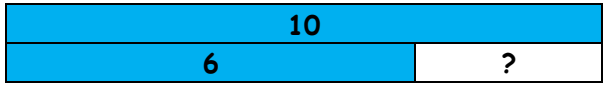
F2	Subtraction	
Vocabulary: number, numeral, digit (one-digit, two-digit), amount, more than, fewer than, less than, pattern, count back, subtract, minus, equals, part, whole.		
Concrete	Pictorial	Abstract
<u>Daily routines and mathematical discussions</u> "We usually have 4 children in our reading group, but Tom is away, how many children do we have now" Counting backwards throughout the day – can you put your lids on your pens before I finish counting back from 5? 5, 4, 3, 2, 1, 0…" "Yesterday we had 4 hats in lost property, today we have 2, that is less/fewer than yesterday."	<u>Number talk</u> Plan number talk opportunities and take advantage of incidental opportunities for number talk when looking at books and images.  	Children record their mathematical knowledge and skills using pictorial representations, part, whole model, drawings, jottings and mathematical statements/language. Encourage children to draw signs in the air.
<u>Taking amounts away/discussing the difference</u> "Here is my 10-frame and this is yours, who has less?" 	"There were 5 fish and 2 swam away, how many were left?"  Jottings 	

"I have 5 bears in total, I am taking 2 away, how many are left?" Can also use cubes as concrete objects.	○○○⊘⊘ Ten frame jottings 	
<u>One less</u> "I had 4 children on my carpet but 1 has gone outside, how many children are left" "I have 3 special pens, but one has run out, so now I have one less than 3…. how many do I have left? 	When singing songs, drawing attention to the subtraction happening. 5 green bottles hanging on the wall, "one green bottle fell, how many green bottles are hanging on the wall now?"  <u>Other song ideas: 5/10 little monkeys, 5/10 little ducks.</u> <u>Numeral track to show one less.</u>  	<u>Begin to explore with own symbols and marks (jottings)</u> Children to be given a mathematical concept and asked to make marks to represent this (mathematical jottings) *Yusuf had 5 apples; he gave 2 to*   *Alex.*

<u>Develop a deep understanding of number to 10, including the composition of each number with the use of games</u>  compose and decompose numbers to 10 using skittles. "I had 10 skittles, 2 got knocked down, how many are left standing?" Other ideas including biscuits, fruit.	Use pictorial representations to show that 2 parts make a whole and refer to this method when decomposing numbers. 5-2=3 5-3=2  	<u>Recording scores using marks and beginning to include the use of numerals (Provision and small groups).</u>  Encourage children to keep scores of their games by using marks and symbols and eventually including numerals in this.

YEAR 1	Subtraction	
Vocabulary: Subtraction; subtract; take away; minus; distance between; difference between; more than; fewer than; minus; less than; most; least.		
Concrete	**Pictorial**	**Abstract**
Subtract numbers within 10 **Counting back:** 10 – 3 = 7  Using cubes, objects and tens frames. **Rekenrek:**  **Numicon:** 	**Subtract numbers within 10** **Counting back:** 10 – 3 = 7  8 – 3 = 5  	Mental facts to 10 **Counting back:** Counting back in ones: 8 – 3 = 5 8, 7, 6, **5** **One and two less:** Of numbers up to 10. 8 - 1 = 7 (consecutive numbers) 6 - 2 = 4 (Consecutive odd or even numbers)
Counting on: (finding the difference) 10 – 6 =  10  6 **Rekenrek:** 	**Counting on: (finding the difference)** 10 – 6 = 4   **Diennes:** 8 – 3 = 5 	**Counting on:** 9 – 7 =2 Hold 7 in your head and count on until 9. The difference is 2. **Number facts/fact families** To 10 and 20: 10 – 2 = 8 20 – 2 = 18 10 – 8 = 2 20 – 18 = 2 2 + 8 = 10 2 + 18 = 20 8 + 2 = 10 18 + 2 = 20

Subtract numbers within 20

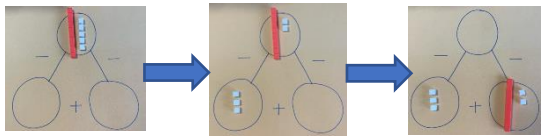
As above but include:

Numicon:

20 – 7 = 13

Rekenrek:

Dienes:

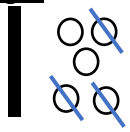


Subtract numbers within 20

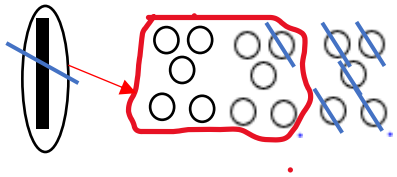
As above plus:

Dienes jottings:

15 – 3 = 12



15 – 6 = 9



One ten = 10 ones

Mental facts to 20

Using known facts and place value

If 6 – 4 = 2

Then **1**6 – 4 = **1**2

Counting back:

Counting back in ones

16 – 5 = 11

16, 15, 14, 13, 12, **11**

Counting on:

(see number line above)

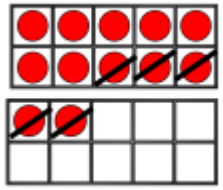
15 – 11 = 4

Hold 11 in your head and count on until 15.

The difference is 4.

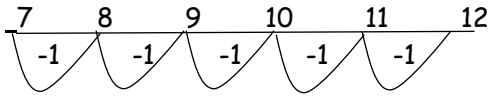
Tens frames showing partitioning:

12 – 5 = 7



Partitioning:

12 – 5 = 7



Extending to partitioning 5 into 2 and 3 then -2 and -3.

Partitioning: (Bridging through 10)

11 – **4**

11 – **1** = 10

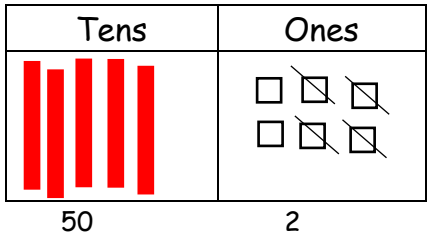
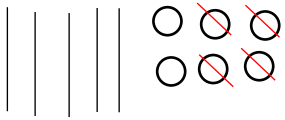
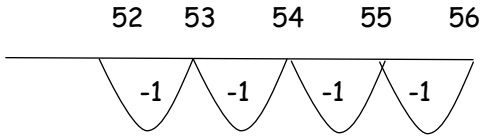
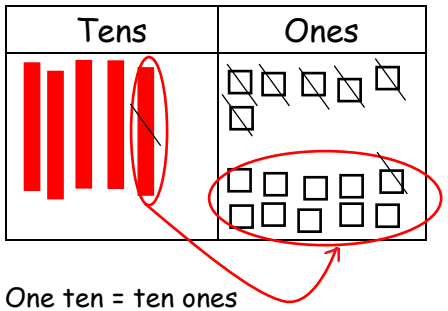
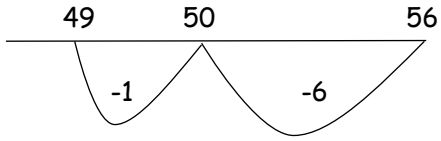
10 – **3** = 7

Missing Number/Inverse:

8 + □ = 19

□ + 12 = 20

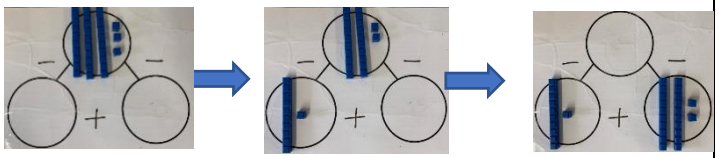
No formal written layout. Children record their maths using pictorial representations, number lines and mathematical statements.

YEAR 2	Subtraction	
Vocabulary: Subtraction, subtract, minus, whole, part, count back, left, missing part, equals, same as, number family, number sentence, calculation, number, numeral, digit (one-digit, two-digit), odd, even, pattern, tens, ones, jottings, inverse (see previous year groups)		
Concrete	Pictorial	Abstract
Children need to be secure in number bonds to 10 and 20. See Year 1 subtraction policy.		
Subtracting 2 digit numbers and multiples of 1 and 10 **No exchanging (diennes)** 56 – 4 = 52  Leading onto a 2-digit number subtracting tens (56 – 30)	**Subtracting 2 digit numbers and multiples of 1 and 10** **No exchanging** **Jottings** 56 – 4 = 52  **Number line**  Leading onto a 2-digit number subtracting tens (56 – 30)	**Subtracting 2 digit numbers and multiples of 1 and 10** Written **No exchanging** Subtracting ones Tens / Ones 5 / 6 - / 4 5 / 2 Subtracting tens Tens / Ones 5 / 6 -3 / 0 2 / 6 This written method is only shown alongside the pictorial representation.
Exchanging (diennes) 56 – 7 = 49  One ten = ten ones	**Exchanging (diennes)** **Jottings** 56 – 7 = 49 **Number line**  Start with counting back in ones then to the ten.	No written method for exchanging.

Subtract two 2-digit numbers:

No exchanging (diennes)

33 – 11 = 22



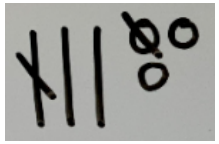
Tens	Ones

Subtract two 2-digit numbers:

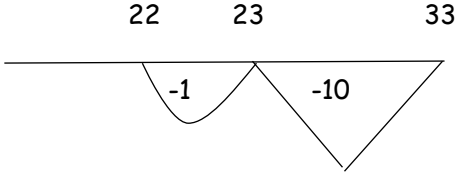
No exchanging

Jottings

33 – 11 = 22



Number line (counting back)



Subtract two 2-digit numbers:

No exchanging

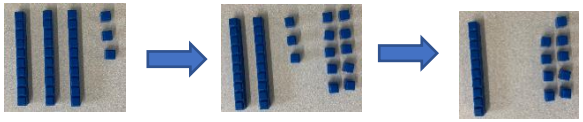
Tens	Ones
3	3
-1	1
2	2

This written method is only shown alongside the pictorial representation.

Subtract two 2-digit numbers:

Exchanging

33 – 14 = 19



Exchange 1 ten for 10 ones.

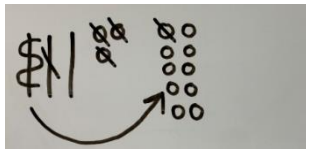
Tens	Ones

Subtract two 2-digit numbers:

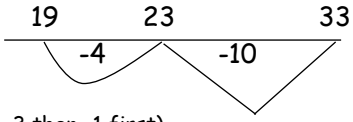
Exchanging

33 – 14 = 19

Jottings



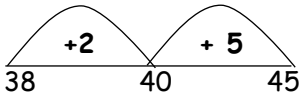
Number line (Counting back)



(may -3 then -1 first)

Number line (Counting on – finding the difference)

45 – 38 = **7**



Subtract two 2-digit numbers:

No written method for exchanging.

Mental Methods

Number families:
Using knowledge of inverse:
If 23 + 31 = 54
Then 54 – 23 = 31

Counting on/up:
(for small differences between numbers)
34 – 28 = 6
28 + **2** = 30
30 + **4** = 34
2 + 4 = 6

Counting back:
56 – 17 = 39
56 – **10** = 46
46 – **6** = 40
40 – **1** = 39

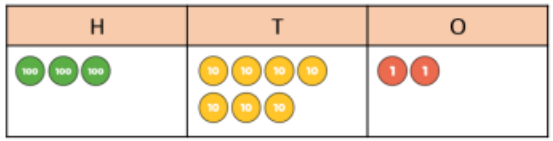
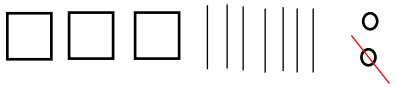
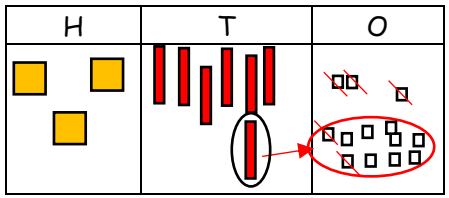
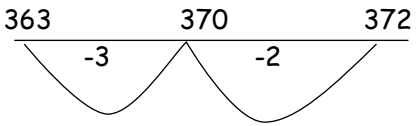
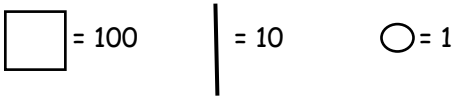
Equivalent differences:
56 – 39 is the same as 57 – 40 = 17

Partitioning:
45 - 23
40 - 20 = **20;** 5 - 3 = **2; 20 + 2 = 22**

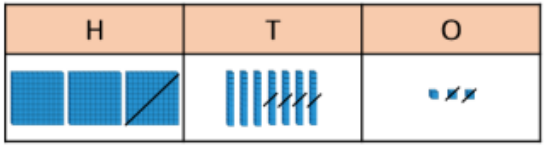
Adjusting:
36 - 9 **+1 to both sides to give:**
37 – 10 = 27
45 - 19 **+1 to both sides to give:**
46 – 20 = 26

Using known facts and place value:
68 - 5
If **8 - 5 = 3** then **68 - 5 = 63**
70 - 30
If **7 – 3 = 4** then **70 – 30 = 40**

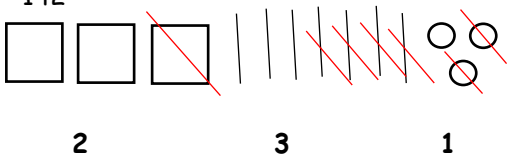
Inverse/missing number:
41 + ___ = 56
___ + 13 = 47

YEAR 3	Subtraction	
Vocabulary: Hundreds, tens, ones, estimate, partition, recombine, difference, decrease, near multiple of 10 and 100, inverse, rounding, column subtraction, exchange (see previous years groups)		
Concrete	**Pictorial**	**Abstract**
Subtracting 100s, 10s and 1s no exchanging: (Use diennes or place value counters).  372 – 1 372 – 40 372 – 200	**Subtracting 100s, 10s and 1s no exchanging:** Use diennes notation: 372 - 1  Then 372 – 40 372 – 200	No written method.
Subtracting 100s, 10s and 1s exchanging: 373 – 5 = 368  1 ten = 10 ones (For 372 – 80 then exchange 1 hundred for 10 tens).	**Subtracting 100s, 10s and 1s exchanging:** **<u>Counting back:</u>** 372 – 5 = 363  372 - 5 2 3 372 – **2** – **3** = 367 Use diennes jottings for subtraction where:  	

Subtracting 3-digit numbers:
No exchanging:
373 – 142 = 231



Subtracting 3-digit numbers:
Diennes jottings:
No exchanging:
373 – 142



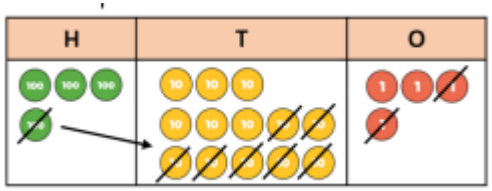
373	
?	142

Written

Subtracting 3-digit numbers:
No exchanging:

300 70 3 100 40 2 200 30 1	373 -142 231

Exchanging:
434 – 72

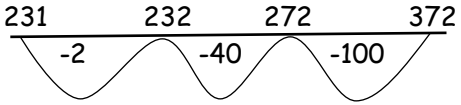


Exchange at different points e.g:
541 – 227; 627 – 385
Extending to exchanging at several different points e.g:
714 - 346

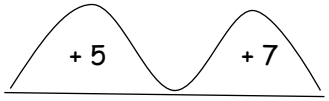
Exchanging:

382 – 153 (exchanging)

Counting back:
372 – 142 = 231



Counting on:
207 – 195 for numbers with small differences.



5 + 7 = 12

195 200 207

Exchanging:

Tens to ones	Hundreds to tens
70 300 ~~80~~ 12 100 50 3 200 20 9	300 ~~400~~ 130 4 70 2 300 60 2

Mental

Counting back:

164 – 40 = 124

(counting back in tens: 154, 144, 134, 124)

356 – 23

(356 – 20 then -3)

375 – 47

(375 – 40, – 5 then – 2)

Counting on (finding the difference)

For numbers close together

102 – 97 = 5

97 + **3** = 100, 100 + **2** = 102

Then **3 + 2 = 5**

325 – 280 = 45

280 + **20** = 300, 300 + **25** = 325

Then **20 + 25 = 45**

Using Known Facts and Place Value:

268 – 5

8 – 5 = 3 so 268 – 5 = 263

600 – 300

6 – 3 = 3; 60 – 30 so 600 – 300 = 300

Partitioning:

567 – 235

567 (– 200 – 30 – 5)

Adjusting:

324 – 99

(add 1 to both numbers)

325 – 100 = 225

456 – 298

(add 2 to both numbers)

458 – 300 = 158

YEAR 4 — Subtraction

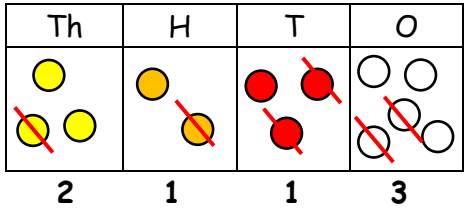
Vocabulary: difference, minus, subtract, take way, less than; subtrahend – minuend = difference (see previous year groups)

Concrete

Subtract whole numbers with up to 4d.

No exchanging:

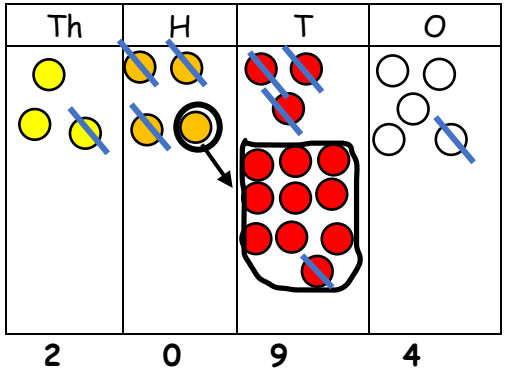
3 235 – 1 122 = 2 113



See year 3 policy for subtracting multiples of 1000, 100, 10 and 1s.

Exchanging:

3 435 – 1 341 = 2 094



Exchange at different and several points e.g:

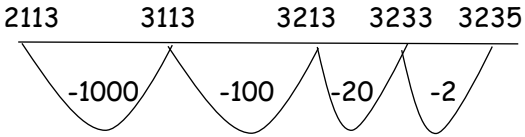
4 167 – 1342; 5462 – 2158; 5236 - 2572

Pictorial

Subtract whole numbers with up to 4d.

No exchanging:

Counting back:



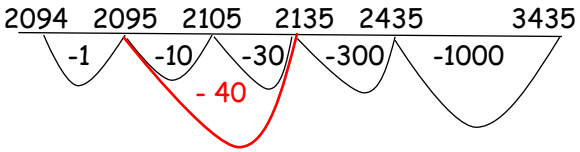
Counting on:

Where the numbers in the calculation allow for easy adding of the resulting jumps.

Exchanging:

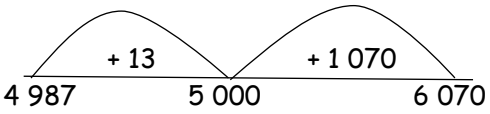
Counting back:

3 435 – 1 341 = 2 094



Counting on:

6 070 – 4 987 = 1 083



Abstract

Written

No exchanging:

$$\begin{array}{r} 3\ 235 \\ -1\ 122 \\ \hline 2\ 113 \end{array}$$

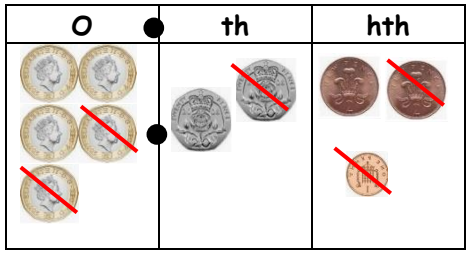
Exchanging:

3 435 – 1 341 = 2 094

Expanded	**Compacted**
300 3000 400 [1]30 5 -1000 300 40 1 2000 0 90 4	3 1 3 435 -1 341 2 094

Subtracting decimals up to 2 decimal places (as money or measures):

£5.45 - £2.23 = £3.22

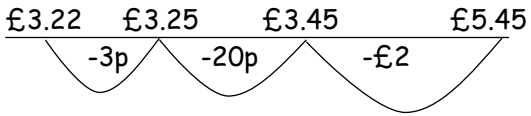


Use place value counters or money depending on the context.

Start with no exchanging leading to exchanging.

Subtracting decimals up to 2 decimal places (as money or measures):

Counting back:



Counting on:

Where the numbers in the calculation allow for easy adding of the resulting jumps.

Subtracting decimals up to 2 decimal places (as money or measures):

No exchanging:

£ 5.45
-£ 2.23
£ 3.22

When exchanging use expanded method first leading on to compacted method.

Mental Methods

Counting on/up (finding the difference)

3267 – 2980 = 287

2980 + **20** = 3000, 3000 + **267**

Then **20 + 267 = 287**

Counting back:

4548 – 234

(partition 234 then -200, -30, -4)

Using known facts and place value:

9000 – 3000

9 – 3 = 6; 90 – 30 = 60; 900 – 300 = 600 so 9000 – 3000 = 6000

Partitioning:

No exchanging – 4 345 – 1 223

Subtracting a power of 10:

3 453 – 1 000

5 321 – 100

(Children recognise which column will change)

Adjusting:

2 456 – 29 (**+ 1 to both numbers)** 2457 – 30 = 2 427

2 456 - 399 (**+ 1 to both numbers)** 2457 – 400 = 2057

2 456 – 1999 (**+ 1 to both numbers)** 2 456 – 2000 = 456

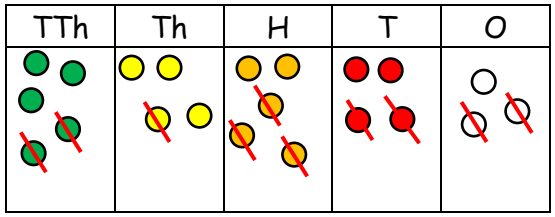
YEAR 5 — Subtraction

Vocabulary: difference, minus, subtract, take way, less than; subtrahend – minuend = difference (see previous year groups)

Concrete

Subtract whole numbers with more than 4 digits (up to 6 digit numbers)

54 543 – 21 322 = 33 221

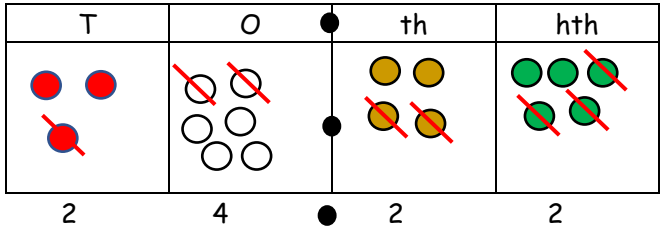


Exchanging at different and several points.

No place value digits for 6-digit numbers available.

Subtracting decimals (up to 2 decimal places)

36.45 – 12.23 = 24.22



Start with no exchanging then build up to exchanging at different points using:

1 ten = 10 ones; 1 one = 10 tenths; 1 tenth = 10 hundredths.

Pictorial

Subtract whole numbers with more than 4 digits.

Counting back using a number line

Building on from year 4 using the number line (see year 4)

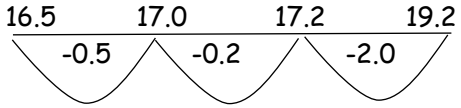
Counting on using a number line

Where the numbers in the calculation allow for easy adding of the resulting jumps.

Subtracting decimals (up to 2 decimal places)

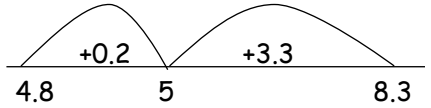
Counting back:

19.2 – 2.7 = 16.5



Counting on:

8.3 – 4.8 = 3.5



Abstract

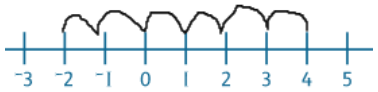
Written

Subtract whole numbers with more than 4 digits.

No exchanging	Exchanging
54 543 -21 322 33 221	5 1 ~~3~~6 251 -15 420 20 831

Subtracting decimals (up to 2 decimal places)

No exchanging	Exchanging
36.45 - 12.23 24.22	8 1 1~~9~~.2 - 2.7 16.5

Subtracting negative numbers Using real life objects: 	**Subtracting negative numbers** 4 – 6 = -2  Number line counting backwards in single increments from 4 to -2.  Number line counting backwards: first to 0 and then the remaining "jumps" back to -2.	Develops in to a mental method no written method.

Mental Methods:

<u>Counting on:</u>
7.2 – 6.8
6.8 + **0.2** = 7
7 + **0.2** = 7.2 then **0.2 + 0.2 = 0.4**

<u>Counting back:</u>
7.87 – 2.03
(partition 2.03 then 7.87 – 2 = 5.87
5.87 – 0.03 = 5.84.

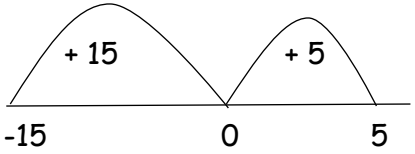
<u>Adjusting:</u>
23 345 – 1 999 **(+ 1 to both numbers)**
23 346 – 2000 = 21 346
8.3 - 1.9 **(+ 0.1 to both numbers)**
8.4 – 2 = 6.4
14.56 - 0.19 **(+ 0.01 to both numbers)** 14.57 – 2 = 12.57

<u>Using known facts and place value:</u>
If 16 – 8 = **8** then:
1.6 – 0.8 = **0.8**
0.16 – 0.08 = **0.08**

<u>Partitioning:</u>
No exchanging
34 567 – 12 354

Subtracting a power of 10
23 453 – 10 000 = 13 453
45 321 – 1 000 = 44 321
Children recognise which column will change.

YEAR 6	**Subtraction**	
Vocabulary: difference, minus, subtract, take way, less than; subtrahend – minuend = difference		
Concrete	Pictorial	Abstract
Subtract larger whole numbers (exchanging at different points) No place value counters for larger numbers. Revisit previous years' addition calculation policies.	**Subtract larger whole numbers** (exchanging at different points) Number lines from previous year groups are used if needed.	**Subtract larger whole numbers** (exchanging at different points) M HTh TTh Th H T O 4 1 1 1 6 5 3 7 2 0 6 - 1 3 7 4 0 2 3 5 1 6 3 1 8 3
Subtracting decimals up to 3 decimal places. (exchanging at different points) (including decimals with different numbers of decimal places)	**Subtracting decimals up to 3 decimal places.** (exchanging at different points) (including decimals with different numbers of decimal places) See previous addition policies if needed for jottings using a number line.	**Subtracting decimals with up to 3 decimal places** (exchanging at different points) (including decimals with different numbers of decimal places) O . t h th 3 14 1 3 . 4 5 3 - 1 . 3 6 4 2 . 0 8 9

Subtracting negative numbers In real life contexts 	**Subtracting negative numbers** -15 + 20 = 5  (could go up in 1s first)	**Subtracting negative numbers** Develops into a mental method – no written method.

Mental

Counting on:

6.14 – 5.76

5.76 + **0.24** = 6

6 + **0.14** = 6.14

0.24 + 0.14 = 0.38

Counting back:

7.87 – 2.03

Partition the second number and counting back.

7.87 – 2 = 5.87

5.87 – 0.3 = 5.84

Adjusting:

34 256 - 14 999 (**+ 1 to both numbers)**

6.73 - 0.99 (**+ 1 to both numbers)**

Using known facts and place value:

1.63 -0.8

16 – 8 = 8 so 1.63 – 0.83 = 0.83

Partitioning:

No exchanging

456 765 – 235 243 = 221522

Subtracting a power/multiple of 10

163 453 - 20,000

275 321 - 1,000

(children recognise which column will change)

***Not always mental- but subtractions involving missing numbers must be included for each approach (e.g., mental/ written)**