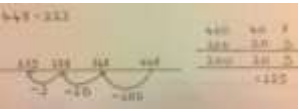


**PROGRESSION MAP**  
**Subtraction**

*This must be viewed alongside the addition map so that connections can be made.*

YR	Y1	Y2	Y3	Y4	Y5	Y6
<b>Understanding the operation and related vocabulary</b>						
understand subtraction as: - taking away - comparison (finding the difference)	understand subtraction as: - taking away - comparison (finding the difference)	understand subtraction as: - taking away - comparison - partitioning a set	continue to develop understanding of subtraction			
		<b>show that subtraction of one number from another cannot be done in any order</b>  recognise that 5-3 is different from 3-5	understand that the principles of the commutative and associative laws do not apply to subtraction recognise that 41-35 is different from 35-41 and that if calculating 19-6-3 the order matters (we cannot calculate 6-3 first)	continue to understand that the principles of the commutative and associative laws do not apply to subtraction recognise that 92-56 is different from 56-92 and that if calculating 73-27-8 the order matters (we cannot calculate 27-8 first)		<b>use their knowledge of the order of operations</b>
		<b>recognise the inverse relationship between addition and subtraction</b> <b>write the related number sentences</b> 5+2=7 2+5=7 7=5+2 7=2+5 7-2=5 7-5=2 2=7-5 5=7-2	understand the inverse relationship between addition and subtraction <b>write the related number sentences</b> 45+22=67 22+45=67 67=45+22 67=22+45 67-22=45 67-45=22 22=67-45 45=67-22	continue to understand the inverse relationship between addition and subtraction <b>write the related number sentences</b> e.g. 256+92=348 92+256=348 e.t.c 348-92=256 92= 348-256 256=348-92		
record using marks that they can interpret and explain	<b>read, write and interpret mathematical statements involving subtraction (-) and equals (=) signs ; 14-3=11 9=16-7</b>  solve missing number problems e.g. 11-□=8 □=13-2 3=□-□	solve missing number problems 27-□=17 □=21-4 10=□-□	solve missing number problems 62-□=19 □=68-54 □-□=25  59+34 = 100 - □ 45 < □ - 6 □ - □ > 54 + 9	continue to solve missing number problems 456-□=210 □=300-176 □-□=125  589+318 = 1000 - □ 450 < □ - 60 □ - □ > 345+199	continue to solve missing number problems 6.5-□=2.3 □=3-0.8 □-□=1.2 5.4+2.7 = 10.3 - □ 5.2 < □ - 0.9 □-□ > 7.2-1.9 begin to use brackets (10-3) x 6 = □ 10 - (0.5 x 7) = □	continue to solve missing number problems 0.63-□=0.32 □=0.5-0.33 0.89 - 0.4 = 1.3 - □ 0.75 < □ - 0.06 □ - □ > 0.82 - 0.09 <b>explore the order of operations using brackets</b> compare 14 - (3 + 5) with (14 - 3) + 5
begin to use the vocabulary involved in subtracting <i>take away, subtract, how many are left, how many more to make, how many more, how many fewer, ...less than .., leave, how many have gone</i>	understand the vocabulary related to subtraction  <i>minus, the difference between, how much more is ... than ..., how much less is .. than ...</i>	understand the vocabulary related to subtraction	understand, read and spell vocabulary related to subtraction correctly  <i>decrease</i>	understand, read and spell vocabulary related to subtraction correctly	read, spell and pronounce mathematical vocabulary related to subtraction correctly	read, spell and pronounce mathematical vocabulary related to subtraction correctly

Recalling number facts						
recall subtraction facts to 5	recall and use subtraction facts to 10 fluently 6 minus 3 8 subtract 2 4 less than 9	<b>recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100</b> 15 subtract 8 4 less than 12 80 minus 30 90 take 50	continue to recall and use subtraction facts to 20 fluently, and derive and use related facts beyond 100 e.g. 16 subtract 9, 150 minus 70, the difference between 80 and 170, 30 fewer than 110, decrease 75 by 40	continue to use knowledge of subtraction facts and place value to derive related facts e.g. 8000 subtract 3000, 1700 minus 800, the difference between 700 and 1400, 300 fewer than 1200, decrease 2500 by 700	continue to use knowledge of subtraction facts and place value to derive related facts with numbers to one decimal place 1.2 subtract 0.7, 1.8 minus 0.9, the difference between 2 and 1.3, 0.3 fewer than 1.7, decrease 1.5 by 0.6	continue to use knowledge of subtraction facts and place value to derive related facts with numbers to two decimal places 0.09 subtract 0.04, 0.16 minus 0.08, the difference between 0.2 and 0.12, 0.06 fewer than 0-19
know number pairs with a total of 10 and derive related subtraction facts	know number pairs with a total of 20 and derive related subtraction facts 19 + 1 = 20 so 20-1 = 19	know complements to the next multiple of 10 52 + □ = 60 76 + □ = 80 know pairs of multiples of 10 with a total of 100 and derive related subtraction facts 10 + 90 = 100 ; 100 - 10 = 90	know pairs of two-digit numbers with a total of 100 and derive related subtraction facts 79 + 21 = 100 so 100 - 79 = 21	know complements to the next multiple of 100 367 + □ = 400 739 + □ = 800	know complements to 1 0.78 + □ = 1 0.52 + □ = 1 recall pairs of three-digit numbers with a total of 1000 and derive related subtraction facts 450 + 550 = 1000 so 1000-450 =	know complements to the next whole number 4.83 + □ = 5 7.125 + □ = 8
Mental methods and mental methods with jottings						
find how many are left when some are taken away  subtract two single-digit numbers and count back to find the answer.  partition a given number of objects (up to 10) into 2 groups	<b>subtract one-digit and two-digit numbers to 20, including zero</b> <u>counting back</u> : 15-3 (in ones; 14, 13, 12) Progress to crossing the tens boundary: 15 - 6 (count back in ones or partition 6 to bridge the tens boundary; -5, -1) <u>Counting up</u> : 9 - 6 (count up from 6 to 9 in ones; 7, 8, 9) With jottings: 19 - 14 (count up from 14 to 19 in ones; 15, 16, 17, 18, 19)  <b>represent and use number bonds within 20</b> <b>Use known facts and place value</b> : 16 - 4 6 - 4 = 2 so 16-4 = 12  partition a given number of objects (up to 20) into 2 groups	<b>subtract numbers using concrete objects, pictorial representations, and mentally, including:</b> * <b>a two-digit number and ones</b> <u>*Counting back or on in ones / twos</u> <u>*adjusting</u> : 16 - 9 (subtract 10 and add 1) <u>*Using place value</u> : 57 - 4 7 - 4 = 3 so 57 - 4 = 53 * <b>a two-digit number and tens</b> *by counting back or on in tens: 57 - 20 (47, 37) * <b>two two-digit numbers</b> <u>*By partitioning and counting back</u> , initially not crossing tens boundary: 57 - 23 (partition second number and count back; -20, -3) Progress to cross tens boundary: 42 - 17 (partition second number and count back; -10, -2, -5) <u>*By counting up</u> : 31 - 28 (across tens boundary; +2, +1) <u>With jottings</u> : 65 - 47 (count up from 47 bridging tens boundary; +3, +10, +5) <u>*By adjusting</u> : 45 - 19 (subtract 20 and add 1)	<b>subtract numbers mentally, including:</b> * <b>a three-digit number and ones</b> <u>using known facts and place value</u> : 268 - 5 8-5=3 so 268-5=263 * <b>a three-digit number and tens</b> *164 - 40 (by <u>counting back</u> in tens; 154, 144, 134, 124) with jottings: 375 - 47 (partition second number and count back; -40, -5, -2) *102 - 97 (by <u>counting up</u> from tens boundary; +3, +2) <u>*By adjusting</u> : 387 - 59 (by subtracting 60 and adding 1) * <b>a three-digit number and hundreds</b> 343 - 170 (count up from 170, bridging the hundreds boundary; +30, +100, +43) <u>By adjusting</u> : 234 - 99 (by subtracting 100 and adding 1)	continue to practise mental methods of subtraction with increasingly large numbers): <u>*counting back</u> :564 - 150 (partition second number and count back; -100, -50) With jottings: 732 - 137 (partition second number, count back; -100, -32, -5) <u>*counting up</u> : 607 - 288 (count up from 288, bridging the hundreds boundary; +12, +7) With jottings: 6070 - 4987 (count up from 4987, bridging the thousands boundary; +13, +1070) <u>*Adjusting</u> : 1487 - 199 (subtract 200 and add 1) With jottings: 442 - 79 (subtract 80 (-40, -40) and add 1) <u>*Use known facts and place value</u> : 7000-600 1000-600=400 so 7000-600=6400	<b>subtract numbers mentally with increasingly large numbers</b> * see year 4 examples with larger numbers  subtract tenths, and one-digit whole numbers and tenths <u>* counting back</u> : 4.7 - 1.5 (partition second number and count back; -1, -0.5) With jottings: 19.2 - 2.7 (partition second number and count back; -2, -0.2, -0.5) <u>*counting up</u> : 7.2 - 6.8 (count up from 6.8 bridging units boundary; +0.2, +0.2) With jottings: 8.3 - 4.8 (count up from 4.8 bridging units boundary; +0.2, +3.3) <u>*adjusting</u> : 8.3 - 1.9 (subtract 2 and add 0.1) With jottings: 12.6 - 3.9 (subtract 4 and add 0.1) <u>*Use known facts and place value</u> : 15 - 0.3 1-0.3=0.7 so 15-0.3=14.7	<b>perform mental calculations, including with mixed operations, large numbers and decimals</b> <u>*counting back</u> : 7.87 - 2.03 (partition second number and count back; -2, -0.03) With jottings: 16.3 - 3.55 (partition second number and count back; -3, -0.3, -0.25) <u>*counting up</u> : 6.14 - 5.76 (count up from 5.76 bridging units boundary; +0.24, +0.14) With jottings: 8.3 - 4.54 (count up from 4.54 bridging units boundary; +0.46, +3.3) <u>*Adjusting</u> : 7.65 - 0.99 (subtract 1 and add 0.01) With jottings: 15.4 - 3.09 (subtract 3.1 and add 0.01) <u>*Use known facts and place value</u> : 1.63 - 0.8 16-8=8 so 1.63-0.8=0.83  calculate intervals across zero the drop in temperature from +5 to -3

Formal written layout						
			<b>subtract numbers with up to three digits, using formal written methods of columnar subtraction</b>	<b>subtract numbers with up to 4 digits using the formal written method of columnar subtraction where appropriate</b>	<b>subtract whole numbers with more than 4 digits, including using formal written methods</b>	practise subtraction for larger numbers, using formal written methods
				subtract decimals to 2 decimal places (in the context of money or measures)	subtract decimals, including a mix of whole numbers and decimals and decimals with different numbers of decimal places	continue to practice subtraction calculations with decimals (up to 3 decimal places)
Estimating and checking						
		<b>check calculations by subtracting in a different way</b> solve $16 - 9$ by $16 - 10 + 1$ check by counting up from 9 to 16	<b>estimate the answer to a calculation</b> $163-48$ is approximately 150-50  <b>use inverse operation or an equivalent operation to check answers</b> check $102-97=5$ with $97+5=102$  use equivalent calculations to check answers	<b>estimate the answer to a calculation</b> $3062-2581$ is approximately 3000-2500  <b>use inverse operation or an equivalent operation to check answers</b> check $564 - 150 = 414$ with $414+150=564$  use equivalent calculations to check answers	<b>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</b> $25\ 034 - 7185$ is approximately 25 000 - 7000  continue to use appropriate strategies to check answers  check $4.7 - 1.5 = 3.2$ with $3.2+1.5$	<b>use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.</b> $60.31 - 17.884$ is approximately 60-18  continue to use appropriate strategies to check answers check $6.7 - 0.55 = 6.15$ with $6.15+0.55$
Some Key Questions						
	How many more to make...? How many more is... than...? How much more is...? How many are left/left over? How many have gone? One less, two less, ten less... How many fewer is... than...? How much less is...? What can you see here? Is this true or false?	How many more to make...? How many more is... than...? How much more is...? How many are left/left over? How many fewer is... than...? How much less is...? Is this true or false? If I know that $7 + 2 = 9$ , what else do I know? (e.g. $2 + 7 = 9$ ; $9 - 7 = 2$ ; $9 - 2 = 7$ ; $90 - 20 = 70$ etc). What do you notice? What patterns can you see?	What do you notice? What patterns can you see? What's the same? What's different? Can you convince me?   When comparing two methods alongside each other: What's the same? What's different? Look at this number in the formal method; can you see where it is in the expanded method / on the number line	What do you notice? What's the same? What's different? Can you convince me? How do you know?	What do you notice? What's the same? What's different? Can you convince me? How do you know?	What do you notice? What's the same? What's different? Can you convince me? How do you know?

**SUBTRACTION: Y1**

**Understanding the operation and related vocabulary.**

**Understanding the operation**

understand subtraction as:

**'taking away'** - removing part of a set & reduction

**'difference'** – comparison & how much more is needed



Identify one less than a given number

Read, write and interpret mathematical statements involving subtraction (-) and equals (=) signs ;

$14-3=11$     $9=16-7$

Solve missing number problems and recognise use of inverse e.g.

$11-\square=8$     $\square=13-2$     $3=\square-\square$

Realise the effect of adding or subtracting 0

Establish addition and subtraction as related operations.

$19 + 1 = 20$  so  $20 - 1 = 19$

**Vocabulary**

Subtraction, subtract, take away, minus, distance between, difference between, more than, minus, less than, equals = same as, most, least, pattern, odd, even, digit

**Mental Calculations**

**Number facts**

Recall and use subtraction facts to 10 fluently e.g.

$6 \text{ minus } 3$     $8 \text{ subtract } 2$     $4 \text{ less than } 9$

Know number pairs with a total of 20 and derive related subtraction facts e.g.

$20+0$ ,  $20-1$ ,  $20-2$ ,  $20-3$  ...

Memorise and reason with number bonds to 10 and 20 in several forms

$9 + 7 = 16$ ;  $16 - 7 = 9$ ;  $7 = 16 - 9$ ;  $9 + \square = 16$  etc.

$6 - 4 = 2$  so  $16 - 4 = 12$

**Mental methods and jottings**

Subtract one-digit and two-digit numbers to 20, including zero, using apparatus including number lines.

Represent and use number bonds within 20

Partition a given number of objects (up to 20) into 2 groups e.g.

Partition 15 into 7 and 8, 9 and 6 ....

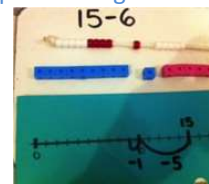
**Counting back**

$15-3$  (by counting back 3 in ones; 14, 13, 12)

*Progress to crossing the tens boundary*

With jottings

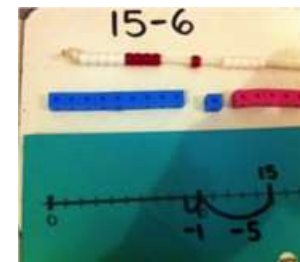
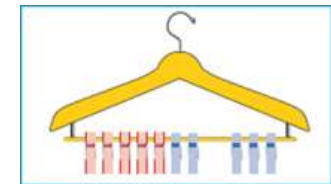
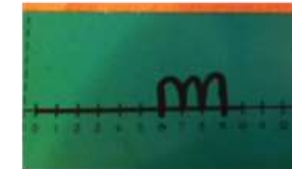
$15 - 6$  (by counting back in ones or partitioning 6 to bridge the tens boundary; -5, -1)



**Written Calculations**

No formal written layout.

Children will be recording their mathematics using pictorial representations, number lines and mathematical statements.



Straw bundles for bridging 10



### Generalisations

- True or false? Subtraction makes numbers smaller
- When introduced to the equals sign, children should see it as signifying equality. They should become used to seeing it in different positions.

Children could see the image below and consider, "What can you see here?" e.g.

3 yellow, 1 red, 1 blue.  $3 + 1 + 1 = 5$

2 circles, 2 triangles, 1

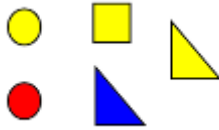
square.  $2 + 2 + 1 = 5$

I see 2 shapes with curved lines and 3 with straight lines.  $5 = 2 + 3$

$5 = 3 + 1 + 1 = 2 + 2 + 1 =$

$2 + 3$

Relate to taking away: if I take away a blue triangle how many shapes will I have? If I take away the yellow shapes, how many will I have?



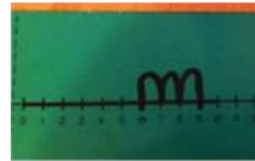
\*

### Counting up

9 – 6 (by counting up from 6 to 9 in ones; 7, 8, 9)

### With jottings

19 – 14 (by counting up from 14 to 19 in ones; 15, 16, 17, 18, 19)



\*Know doubles to at least 10 and use near doubles to add pairs of numbers

### Using known facts and place value

$6 - 4 = 2$  so  $16 - 4 = 12$

### Using known doubles

Double 3 is 6 so  $3 + 4$  is one more

Bar models – part/whole and comparison for modelling



## SUBTRACTION: Y2

### Understanding the operation and related vocabulary.

#### Understanding the operation

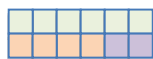
Understand subtraction as:

- taking away
- comparison (finding the difference)
- partitioning a set

Show that subtraction of one number from another cannot be done in any order

Recognise that  $5-3$  is different from  $3-5$

Recognise the inverse relationship between addition and subtraction



Write the related number sentences

$5+2=7$   $2+5=7$   $7=5+2$   $7=2+5$

$7-2=5$   $7-5=2$   $2=7-5$   $5=7-2$

Solve missing number problems e.g.

$27-\square=17$   $\square=21-4$   $10=\square-\square$

#### Vocabulary

Subtraction, subtract, take away, difference, difference between, minus, Tens, ones, partition, near multiple of 10, tens boundary, less than, one less, two less... ten less... one hundred less, more, one more, two more... ten more... one hundred more

### Mental Calculations

#### Number facts

Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100 e.g.

15 subtract 8 4 less than 12 80 minus 30 90 take 50

Know complements to the next multiple of 10 e.g.

$52+\square=60$   $52+\square=80$

Know pairs of multiples of 10 with a total of 100 and derive related subtraction facts e.g.

100-10, 100-20, 100-30 ...

#### Mental methods and jottings

Subtract numbers using concrete objects, pictorial representations, and mentally, including:

- \* a two-digit number and ones
- \* a two-digit number and tens
- \* two two-digit numbers

#### Counting back in ones, twos and tens

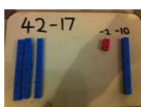
57 - 20 (by counting back in tens; 47, 37)

#### With jottings

57 - 23 (by partitioning the second number and counting back; -20, -3)

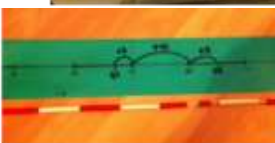
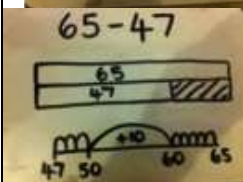
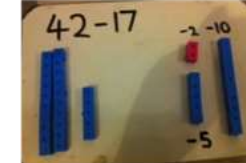
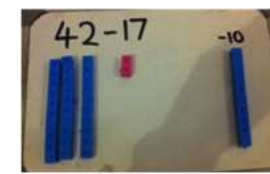
Progress to crossing the tens boundary

42 - 17 (by partitioning the second number and counting back; -10, -2, -5)



### Written Calculations

Children will be recording their mathematics using pictorial representations, number lines and mathematical statements.

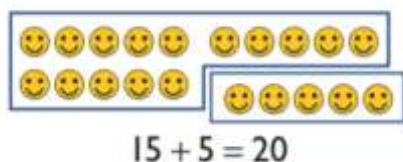


Use prepared and independently created number lines

Use number square to add and subtract 10 and multiples of 10: 37 +/- 20 (count on/ back in tens)

### Generalisation

- Noticing what happens when you count back in tens (the digits in the ones column stay the same)
- Odd – odd = even; odd – even = odd; etc
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. This understanding could be supported by images such as this.



### Counting up

31 - 28 (by counting up from 28 by bridging the tens boundary; +2, +1)

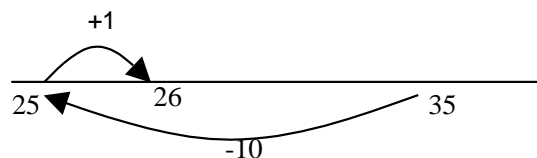
With jottings

65 - 47 (by counting up from 47 by bridging the tens boundary; +3, +10, +5)



### Adjusting

35 - 9 (by subtracting 10 and adding 1)



With jottings

35 - 19 (by subtracting 20 and adding 1)

### Using known facts and Place Value

57 - 4 (7 - 4 = 3 so 57 - 4 = 53)

### Estimating

check calculations by subtracting in a different way  
solve 16 - 9 by 16 - 10 + 1

### Partitioning second number

partition numbers in different ways

23 = 20 + 3 and 23 = 10 + 13 to support subtraction

57 - 23 (-20, -3) then cross tens boundary: 42 - 17 (-10, -2, -5)

Apply increasing knowledge of written methods:

Use expanded column subtraction, initially with no decomposition, modelled with place value counters (Dienes could be used for those who need a less abstract representation) when the child is ready for this method.

$$\begin{array}{r} \text{T} \quad \text{U} \\ 30 \quad 7 \\ - 20 \quad 3 \\ \hline 10 \quad 4 = 14 \end{array}$$

As above with exchanging when supported with apparatus

$$\begin{array}{r} \text{T} \quad \text{U} \\ 50 \quad 3 \\ - 20 \quad 7 \\ \hline \end{array} \rightarrow \begin{array}{r} \text{T} \quad \text{U} \\ 40 \quad 13 \\ - 20 \quad 7 \\ \hline 20 \quad 6 = 26 \end{array}$$



## SUBTRACTION: Y3

### Understanding the operation and related vocabulary.

#### Understanding the operation

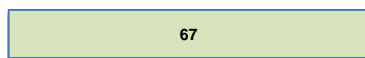
Continue to develop understanding of subtraction

Understand that the principles of the commutative and associative laws do not apply to subtraction

Recognise that 41-35 is different from 35-41

Recognise that if calculating 19-6-3 the order matters (we cannot calculate 6-3 first)

Understand the inverse relationship between addition and subtraction



Write the related number sentences

$$45+22=67 \quad 22+45=67 \quad 67=45+22 \quad 67=22+45$$

$$67-22=45 \quad 67-45=22 \quad 22=67-45 \quad 45=67-22$$

Solve missing number problems e.g.

$$62 - \square = 19 \quad \square = 68 - 54 \quad \square - \square = 25$$

$$59 + 34 = 100 - \square \quad 45 < \square - 6 \quad \square - \square > 54 + 9$$

#### Vocabulary

Hundreds, tens, ones, estimate, partition, recombine, difference, decrease, near multiple of 10 and 100, inverse, rounding, column subtraction, exchange  
See also Y1 and Y2

### Mental Calculations

#### Number facts

Continue to recall and use subtraction facts to 20 fluently, and derive and use related facts beyond 100 e.g.

16 subtract 9, 150 minus 70, the difference between 80 and 170, 30 fewer than 110

Know pairs of two-digit numbers with a total of 100 and derive related subtraction facts e.g.

100-79, 100-43, 100-12 ...

Use knowledge of number bonds to 10 and 100 to calculate with multiples of 10

120 – 90 using knowledge of 12-9

Use knowledge of place value to subtract to or from a multiple of 10

90–27, 164 – 40 (count on/ back in tens)

#### Mental methods and jottings

subtract numbers mentally, including:

- \* a three-digit number and ones
- \* a three-digit number and tens
- \* a three-digit number and hundreds

#### Counting Back (sequencing)

164 – 40 (by counting back in tens; 154, 144, 134, 124)

387 – 59 (- 60 +1)

#### With Jottings:

375 – 47 (by partitioning the second number and counting back; -40, -5, -2) using a number line, 100 square or jottings

### Written Calculations

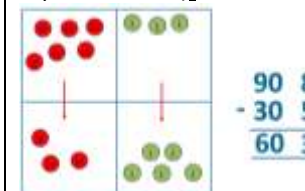
Use larger numbers to at least 1,000 and practise partitioning in different ways in preparation for written subtraction methods e.g.

$$146 = 100 + 40 + 6, \quad 146 = 130 + 16$$

#### Expanded decomposition

Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.

Use expanded column subtraction, initially with no decomposition, modelled with place value counters (Dienes could be used for those who need a less abstract representation) when the child is ready for this method.



This will progress to larger numbers

H   T   U

200   60   8

- 100   40   7

100   20   1 = 121



With support of Dienes and place value counters and when children are ready, move to exchanging, initially in tens column only.



### Generalisations

Noticing what happens to the digits when you count in tens and hundreds.

Odd – odd = even etc (see Year 2)

Inverses and related facts – develop fluency in finding related addition and subtraction facts.

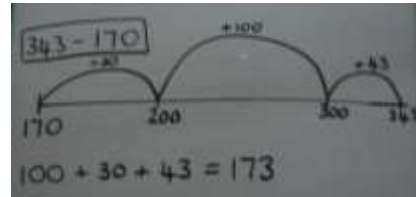
Develop the knowledge that the inverse relationship can be used as a checking method.

### Counting up

102 – 97 (by counting up from 97, bridging the hundreds boundary; +3, +2)

#### With jottings

343 – 170 (by counting up from 170, bridging the hundreds boundary; +30, +100, +43)

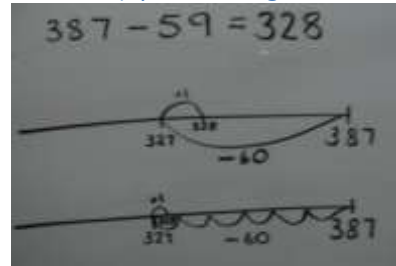


### Adjusting:

234 – 99 (by subtracting 100 and adding 1)

#### With Jottings:

387 – 59 (by subtracting 60 and adding 1)



### Using Known Facts And Place Value:

268 – 5

8-5=3 so 268-5=263

### Estimating

Estimate the answer to a calculation

163-48 is approximately 150-50

Use inverse operations to check answers

check 102-97=5 with 97+5=102

Use equivalent calculations to check answers

H T U

200 <sup>30</sup>40 <sup>17</sup>

- 100 20 9

100 10 8 = 118

## SUBTRACTION: Y4

### Understanding the operation and related vocabulary.

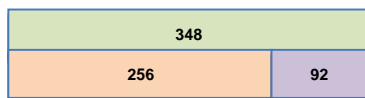
#### Understanding the operation

Continue to understand that the principles of the commutative and associative laws do not apply to subtraction

recognise that 92-56 is different from 56-92

recognise that if calculating 73-27-8 the order matters (we cannot calculate 27-8 first)

Continue to understand the inverse relationship between addition and subtraction



Write the related number sentences

$$256+92=348 \quad 92+256=348 \quad 348=256+92 \quad 348=92+256$$

$$348-256=92 \quad 348-92=256 \quad 92=348-256 \quad 256=348-92$$

Continue to solve missing number problems e.g.

$$456-\square =210 \quad \square =300-176 \quad \square -\square =125$$

$$589+318 = 1000 - \square \quad 450 < \square - 60 \quad \square - \square > 345+199$$

#### Vocabulary

subtract, subtraction, difference, less, take away, decrease, fewer, minus, count on, partition, adjust, how many more to make..? how much more? ones boundary, tens boundary, hundreds boundary, thousands boundary, tenths boundary, hundredths boundary, inverse, how many more/fewer? Equals sign, is the same as.

#### Generalisations

Investigate when re-ordering works as a strategy for subtraction. eg.  $20 - 3 - 10 = 20 - 10 - 3$ , but  $3 - 20 - 10$  would give a different answer.

### Mental Calculations

#### Number facts

Continue to use knowledge of subtraction facts and place value to derive related facts, including decimals and money e.g.

8000 subtract 3000, 1700 minus 800, the difference between 700 and 1400, 300 fewer than 1200

Know complements to the next multiple of 100 e.g.

$$367 + \square = 400 \quad 739 + \square = 800$$

#### Mental methods and jottings

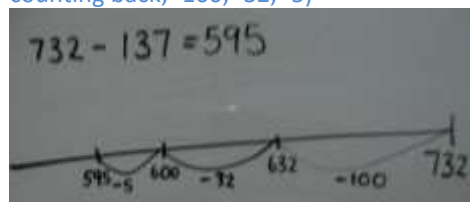
Continue to practise mental methods of subtraction with increasingly large numbers.

#### Counting Back (Sequencing):

564 – 150 (by partitioning the second number and counting back; -100, -50)

#### With Jottings:

732 – 137 (by partitioning the second number and counting back; -100, -32, -5)



#### Counting Up:

607 – 288 (by counting up from 288, bridging the hundreds boundary; +12, +7)

#### With Jottings:

6070 – 4987 (by counting up from 4987, bridging the thousands boundary; +13, +1070)

### Written Calculations

Subtract numbers with up to 4 digits using the formal written method of columnar subtraction where appropriate

Subtract decimals to 2 decimal places (in the context of money or measures)

By Year 4, most children will be confident using expanded decomposition, with the support of practical equipment and models and images and will be able to use this method for HTU – HTU and ThHTU – ThHTU  
Many children will have moved on further and will no longer need to use the expanded method.

$$607 - 468 =$$



$$6070 - 4987 = 1083$$

$$4987 \quad 5000 \quad 6070$$

$$1070 + 13 = 1083$$

**Adjusting:**

1487 - 199 (by subtracting 200 and adding 1)

**With Jottings:**

442 - 79 (by subtracting 80 (-40, -40) and adding 1)

$$442 - 79 = 363$$

$$442 \quad 402 \quad 362 \quad 363$$

$$402 \quad (-40)$$

$$362 \quad (-40)$$

$$363 \quad (+1)$$

**Using Known Facts And Place Value:**

7000-600

1000-600=400 so 7000-600=6400

**Estimating:**

Estimate the answer to a calculation

3062-2581 is approximately 3000-2500

Use inverse operations to check answers

check  $564 - 150 = 414$  with  $414 + 150 = 564$

Use equivalent calculations to check answers

Th	H	T	U
1000	<del>200</del>	160	7
	100	80	5

$$1000 \quad 100 \quad 80 \quad 2 = 1182 \quad \text{leading to}$$

$$\begin{array}{r} 2 \\ 13^{\#}67 \\ - 185 \\ \hline 1182 \end{array}$$

when children are ready.

Progress to exchanging in more than one column

Th	H	T	U
600	<del>140</del>		
1000	<del>700</del>	50	<del>14</del>
	80	6	
1000	600	60	8

moving between compact and expanded methods as necessary.

Show awareness of when this method is appropriate eg. discuss cases with lots of zeroes!

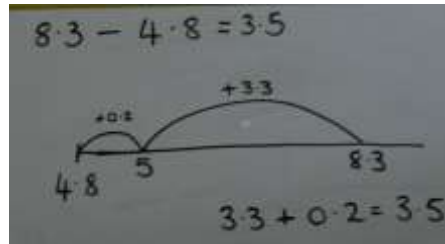


**Counting up:**

7.2 – 6.8 (by counting up from 6.8 by bridging the units boundary; +0.2, +0.2)

**With jottings:**

8.3 – 4.8 (by counting up from 4.8 by bridging the units boundary; +0.2, +3.3)

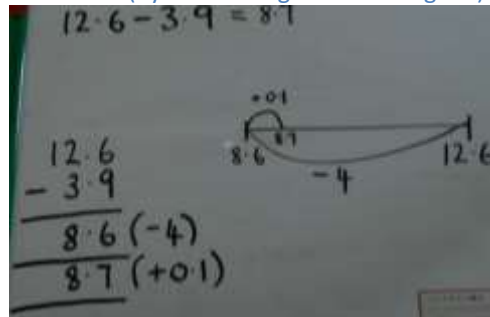


**Adjusting:**

8.3 – 1.9 (by subtracting 2 and adding 0.1)

**With jottings:**

12.6 – 3.9 (by subtracting 4 and adding 0.1)



**Using known facts and place value:**

15 – 0.3

1 – 0.3 = 0.7 so 15 – 0.3 = 14.7

**Estimating**

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

25 034 – 7185 is approximately 25 000 – 7000

Continue to use appropriate strategies to check answers

check 4.7 – 1.5 = 3.2 with 3.2 + 1.5



**Using Known Facts And Place Value:**

$1.63 - 0.8$

$16-8=8$  so  $1.63-0.8=0.83$

**Estimating:**

Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

$60.31 - 17.884$  is approximately  $60-18$

Continue to use appropriate strategies to check answers

check  $6.7 - 0.55 = 6.15$  with  $6.15+0.55$