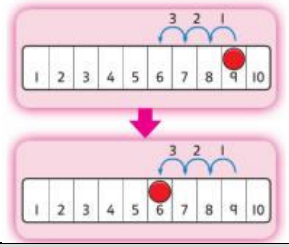
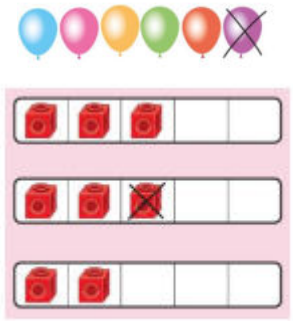
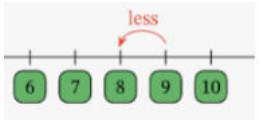
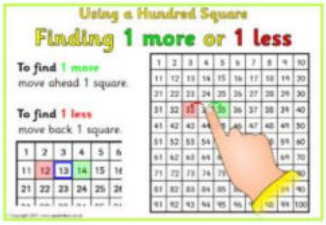
Subtraction Calculation Policy

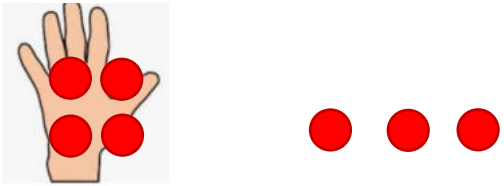
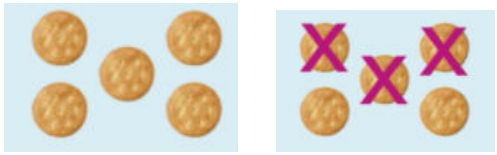
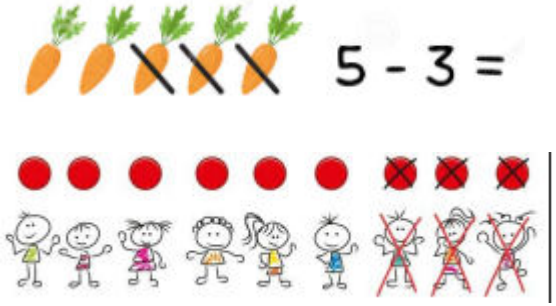
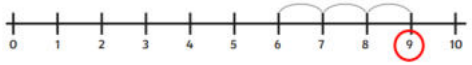
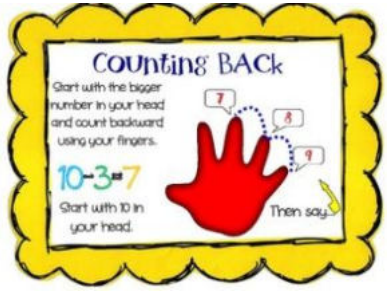
Early Years

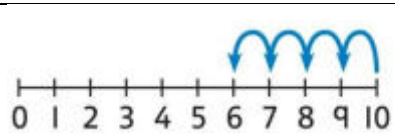
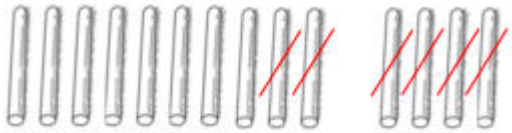
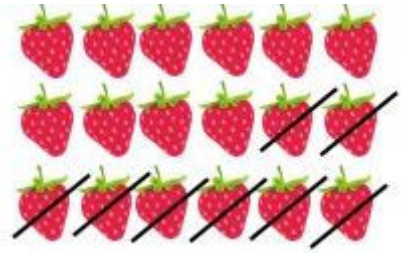
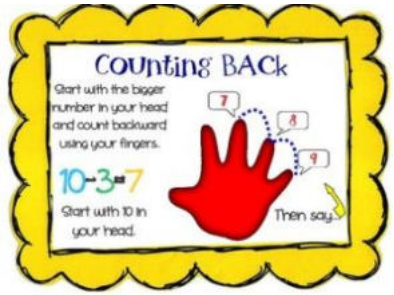
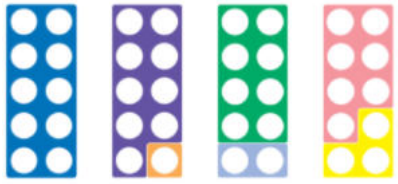
Vocab for Subtraction: Takeaway, less, equals, how many left, backwards

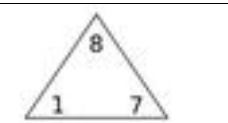
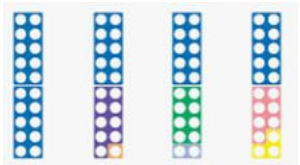
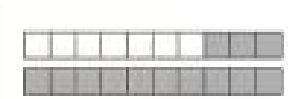
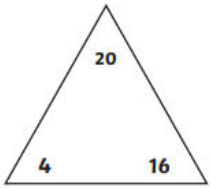
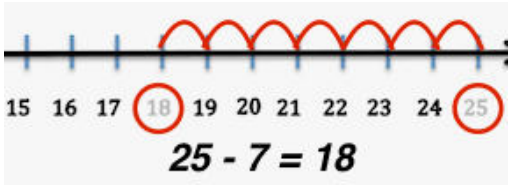
	Steps in learning for Subtraction	Explanatory note
Using quantities and objects, subtract two single digit numbers and count back to find the answer. **Link to New ELG 2021: To automatically recall number bonds to 5 and some number bonds to ten**	**1. I know when to take away** See that there are a group of objects. Know that when we take some away we move objects from the group. See that there is less when taken away. **2. I know how many are left** Have a group of objects Remember to take the objects away Find out how many are left by counting **3. I can take away the right amount and count how many are left (Oral)** Orally say the number sentence 3-2 Count out/set out how many objects you need- first number. See how many need taking away- second number Remove/ takeaway the second amount Check you have taken away the right amount. Count how many remaining to find the answer **4. I can read a subtraction number sentence** Read the number sentence Say takeaway for (-) Say equals (=) **5. I can arrange a number sentence (This step can be linked straight away with step 6 if needed)** Read the number sentence Set out the number of objects to start with Say how many need to be taken away Remove the correct number of objects **6. I can solve a subtraction number sentence**	1. When pouring water or counting objects, say shall we take some away and the child understands that there is now a smaller amount than before. 2. When playing it is knowing how many left is the number of objects that remain after some have been removed. 3. Children need to be able to count to 10 with 1 to 1 correspondence. They should count the amount of objects to start, take away the right amount then count how many are left. 4. Children should be taught the terms takeaway and equals and be able to read number sentences on flashcards. 5. Children should use cubes or play objects to make the number sentence. Adults need to check they have removed the correct amount from the starting amount.

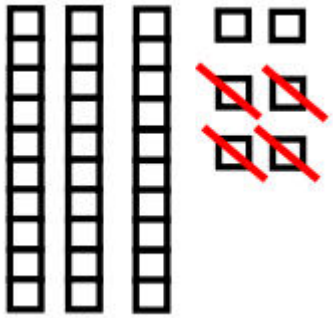
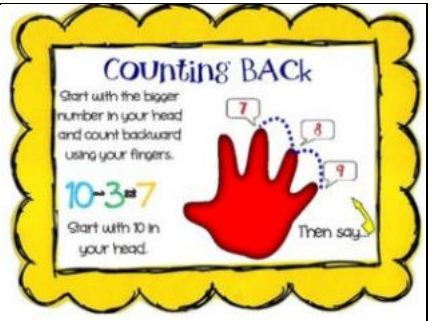
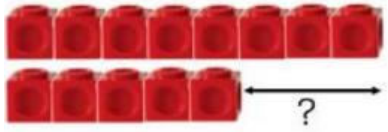
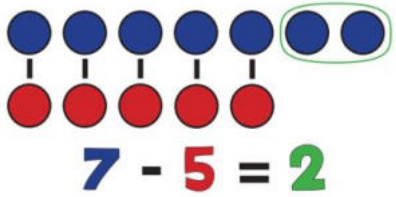
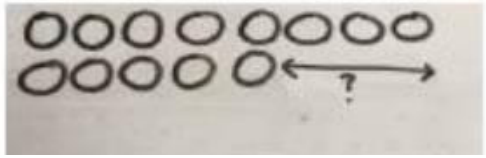
	Read the number sentence Set out the number of objects to start with Say how many need to be taken away Take the objects away Count how many are left **7. I can solve subtraction sentences on a number line.** Find the starting number and circle it Count back the right amount See where you have landed Circle the answer Follow Y1 expectations for subtraction using number lines (Starting numbers less than 20). Follow Y1 expectations for subtraction of 1d - 1d putting the larger number in your head and counting back.	7. Use pre numbered Number lines  *9 take away 3 equals 6* *9…8…7…6*

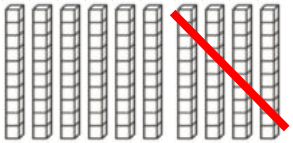
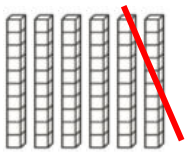
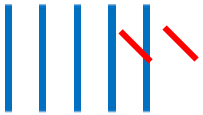
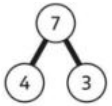
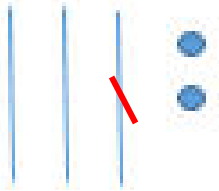
Year 1			
	Concrete and practical resources	**Pictorial / Jottings**	**Abstract**
Find 1 less than a number	Use physical objects, counters/cubes. Children takeaway one object from a group to find one less. 	Use a number line or stick to find one less  Using a hundred square to find one less  Link orally counting on back ones to finding one less Link to one less being the number before in the count Link to change in ones digit	Link to counting backwards from 100, children to be able mentally find one less by saying the number before in the count up to 100 e.g. 18 - 1 = 17 45 - 1 = 44 79 - 1 = 78

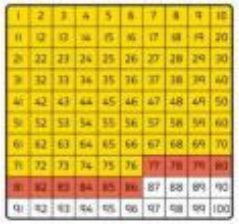
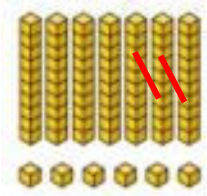
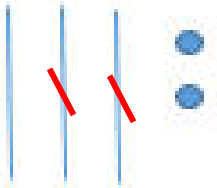
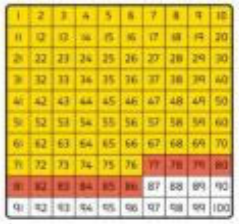
Subtract two 1 digit numbers to 10 **e.g. 7 – 3 = 4** **Linked to read, write and interpret mathematical statements involving subtraction - and equals =**	Use practical resources such as cubes, counters and beads (refer back if needed to EY steps when subtracting 1d - 1d numbers) Children physically takeaway the objects from the whole. 7 – 3 = Physically count out 7 objects/counters. Children must have accurate 1:1 correspondence for this.  Children to then physically remove the objects, counting how many are left to find the answer  5 – 3 = 	<u>Pictorial</u> Cross out drawn objects to show what has been taken away and count how many are left.  <u>Jottings</u>  Draw dots / circles to represent objects then cross out the amount to be taken away. <u>Number lines/ Tracks</u> Begin to introduce counting back using visuals of a number line. Start at the bigger number and count back the smaller number, showing the jumps on the number line. e.g. 9 - 3 = 6  e.g. 10 – 4 = 6	<u>Counting back mentally</u> Putting larger number in your head in and counting back, on fingers. e.g.  • Put largest number in your head • Hold up the number of fingers to be taken away/ subtracted • Count back on each finger

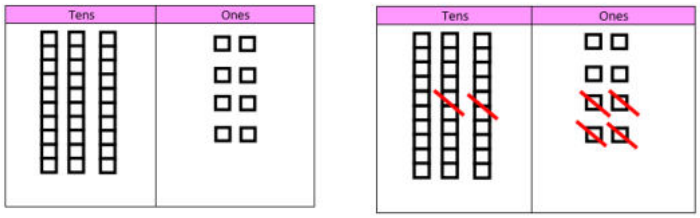
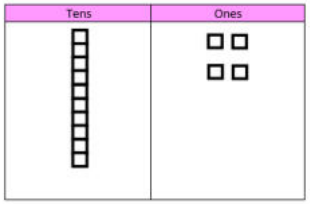
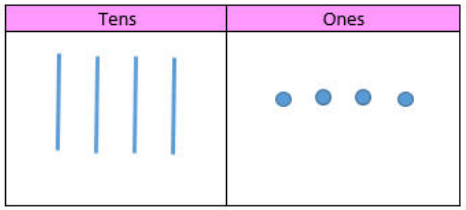
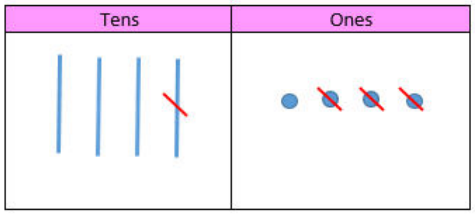
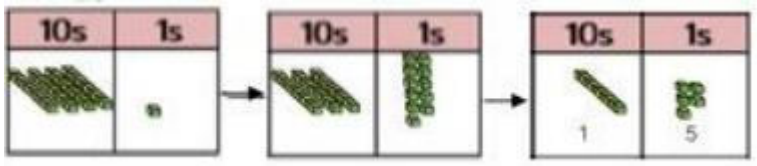
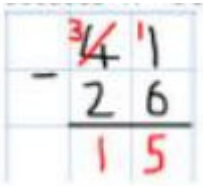
			
Subtract 1 and 2 digit numbers to 20, including subtracting zero **e.g 14 - 6 =**	Use counters or objects to represent the number and physically remove the objects (as above) 	<u>Pictorial</u> Children to cross out drawn objects and count how many are left.  18 – 8 = <u>Jottings</u>- Draw dots/circles to represent the numbers in the number sentence and cross out the amount they are taking away. <u>Number lines</u> Find the starting number and count back as in 1d – 1d  14 – 6 =	<u>Counting back mentally</u> Putting the larger number in your head and counting back, on fingers (See above)  • Put largest number in your head • Hold up the number of fingers to be taken away/ subtracted • Count back for each finger
Develop fluency in - facts within 10	Use numicon to explore number bonds to 10 and link to subtraction facts 	<u>Pictorial</u> Use pictorial representations to work out subtraction facts 	<u>Mental recall</u> Use knowledge of addition facts to 10 and fact families

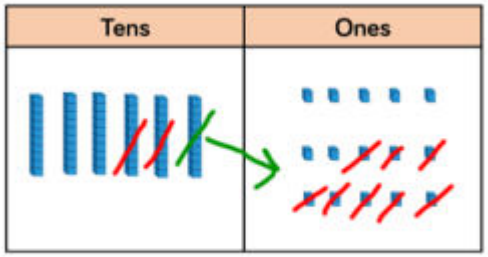
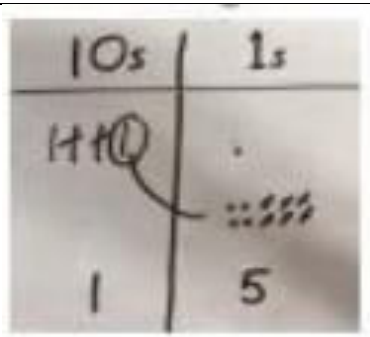
	10 – 1 = 9 10 – 2 = 8	10 – 4 = 6 10 – 6 = 4	  Link to Learn its and switcher facts e.g. 7 + 3 = 10 switcher 10 - 3 = 7
Year 2			
	Concrete and practical resources	**Pictorial / Jottings**	**Abstract**
Recall and use subtraction facts to 20	Use numicon to find bonds to 20. Link addition facts to subtraction facts  10 +10 = 20 20 -10 = 10 19 + 1 = 20 20 - 1 = 19 18 + 2 = 20 20 - 2 = 18	Look at the pictorial representation and write the related subtraction facts/number sentence  20 – 13 = 7 20 – 7 = 13	Fact families  e.g. if 16 + 4 = 20 then 20 – 4 = 16 and 20 – 16 = 4
Subtract 1d and 2d numbers to 100 e.g. 39 - 5 = 34	Use base ten to practically subtract 2d and 1d numbers to 100. Represent the number using base ten then remove the amount that needs taking away, counting how many are left. e.g. 36 – 4 = 32	<u>Number lines</u> Find the starting number and count back the smaller number showing the number of jumps on the number line.  	<u>Counting back mentally</u> Putting larger number in your head and counting back, on fingers as Y1 but with starting numbers above 20.

			 Link to lots of oral counting backwards in ones to 100 and especially across tens boundaries.
Compare objects and amounts to find the difference	Compare amounts using objects, placing side by side to see the difference e.g. What is the difference between 8 and 5?  e.g How many more is 7 than 5? What is the difference between 7 and 5? 	Children to draw the cubes or other concrete items that they have used using circles e.g. What is the difference between 8 and 5? 	Use counting on in head to answer questions such as: Hannah has 8 goldfish. Helen has 3 goldfish. **What is the difference** in the number of goldfish the girls have? Mike has 9 cars and Sam has 4 cars. **How many more cars** has Mike than Sam?
Use number bonds to 10 to derive related	Use base ten to represent the number and remove the correct amount of tens e.g. 100 - 40 =	Use pictorial jotting of base ten using lines to represent tens. e.g. 100 – 30 = 70	Use recall of number bonds to 10 to answer questions such as **100 – 30 =**

facts to 100 **e.g. 100 – 30 =**	Count out 10 tens and takeaway/ remove 4 sticks of ten. Count how many are left. 		**100 - ___ =** Use known facts and number bonds e.g. 10 - 6 = 4 so 100 – 60 = 40
Subtract a multiple of ten from a multiple of ten **e.g. 60 - 20 =** **Linked to counting in multiples of ten (Y1)**	Use base ten materials. Start by subtracting one ten first then extend to multiples of ten. **<u>Children must be able to count multiples of ten Y1</u>** e.g. 60 – 20 = Count out 6 sticks of ten and remove 2, counting how many are left 	<u>Jottings</u> Use lines to represent tens and cross out the amount taken away. e.g. 50 - 20 = 30  Lots of work around **the hundred square** can support this understanding. Use to subtract one ten from any given number and looking at the patterns/digit changes when adding ten. (Link to counting back in multiples of ten)	Mentally subtracting multiples of ten by counting back in tens and looking at place value change in tens digit e.g. 50 - 10 = <u>40</u> 50 - 20 = 30 50 - 30 = 20 Use known bonds/ learn its/ What else do I know facts  7 – 4 = 3 70 – 30 = 40
Subtract ten from a two digit number **e.g. 76 - 10 =** **Linked to counting back tens from any number and 10**	Use base ten materials e.g. 76 - 10 = Children to represent the first number using base ten. Children to physically remove the ten and count how much is left. 	Jottings using lines for base ten tens and circles for ones. Crossing out the ten to be taken away. e.g. 32 - 10 = 	Mentally counting back ten/ finding ten less (Link to counting back in tens orally from any 2d number) Use place value to manipulate digits 67 - 10 = 57 57 - 10 = 47

less than a number		Lots of work around the hundred square can support this understanding. **Use to find ten less than a number** and looking at the patterns/digit changes when subtracting ten. 	47 - 10 = 37
Subtract a two digit number and multiple of ten e.g. 76 - 20 = **Linked to counting back tens from any number**	Use base ten materials e.g. 76 - 20 = Children to represent the first number using base ten. Children to physically remove the tens and count how much is left. 	Jottings using lines for base ten tens and circles for ones. Crossing out the tens to be taken away. e.g. 32 - 20 =  Lots of work around the hundred square can support this understanding. **Use to count back in tens from any given number** and looking at the patterns/digit changes when subtracting ten. 	Mentally counting back in multiples of ten on fingers (Link to counting back in tens orally from any 2d number) Use place value to manipulate digits 67 - 10 = 57 67 - 20 = 47 67 - 30 = 37
Subtract 2 two-digit numbers e.g. 38 – 24 =	Use base ten to subtract TO + TO **No exchange.** Use place value grid to support understanding of Tens and Ones	Children represent the base ten using lines and dots. e.g. 44 - 13 =	Children use formal column written method to subtract numbers (no exchange)

using concrete objects, pictorial representations and mentally Linked: Solve problems with - and apply knowledge of mental and <u>written methods</u> **No exchange**	Children to represent the number using base 10. Children to physically remove the ones then the tens e.g. 38 - 24 =  3 8 Children then count how many are left  1 4	 They cross out the ones they have taken away, then the tens and record how many are left.  3 1	 **Introduce formal written columnar method**
Year 2/3			
Subtract up to two 2 digit numbers e.g. 41- 26 using concrete apparatus, pictorially and mentally Linked: Solve problems with - and apply knowledge of mental and	Use base ten and place value chart to represent the number. Teach children to recognise if they cannot take away the amount of ones needed they must exchange a ten for ones. e.g. 41- 26 = 15  e.g. 65 – 28 = 37	Children represent the base ten in a place value chart, circling when they need to make an exchange. Subtracting the ones first then the tens by crossing out. e.g. 41- 26 = 15	Children use formal column written method to find the answer. Children must understand that they have exchanged the ten so they still have 41 because 30 +11 = 41 

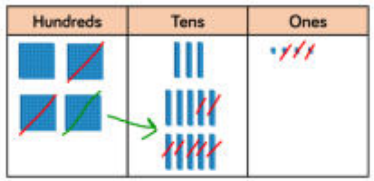
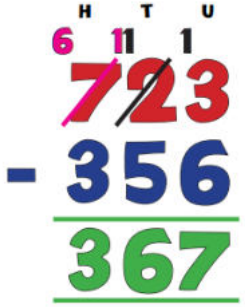
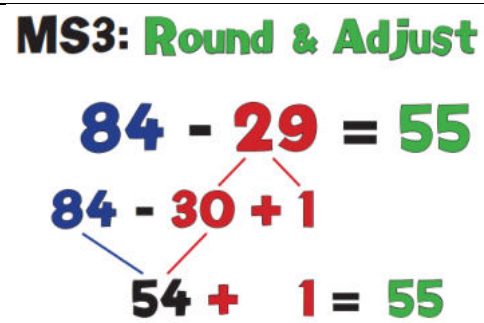
written methods **With exchange** Formal written method			$\begin{array}{r} {}^{6}\not{7}^{1}5 \\ -\ 3\ 7 \\ \hline 3\ 8 \end{array}$

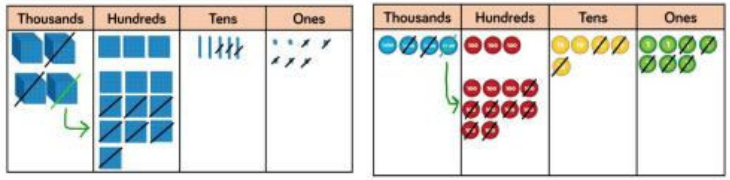
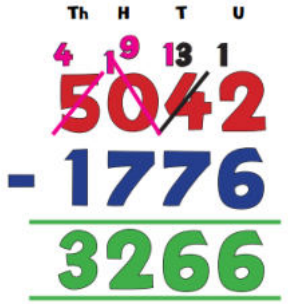
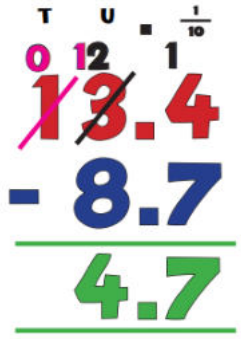
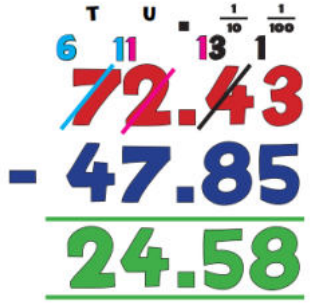
Year 3

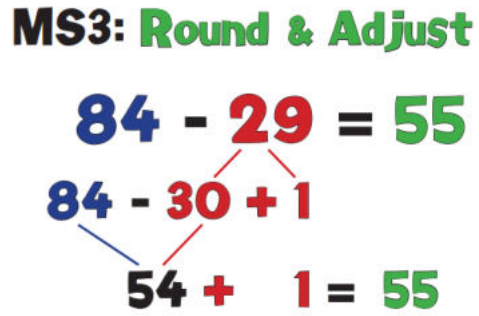
Overarching objective: Solve subtraction problems using number facts and place value and more complex subtraction problems – See strategies below

Subtract mentally 3 digit numbers and 1's **e.g.** **478 – 6 =** **627 – 5 =**	Link to oral counting forwards in ones starting from any 3 digit number. Link to Y2 strategy mentally counting back in head but from **3 digit numbers.** Also link to place value of ones. Start with the bigger number in your head and count back.
Find 10 less than a given number mentally **e.g.** **647 – 10 =** **923 – 10 =**	Link to counting back in tens from any three digit number. Link to place value and the manipulation of numbers/ changes in digits. Answer questions such as: **578 – 10 =** **432 – 10 =** **609 – 10 =**
Subtract mentally 3 digit numbers and 10s **e.g.**	Linking to place value of digits, some crossing barriers. Answer questions such as: **645 – 20 =** **538 – 40 =**

265 – 20 = **497 – 30 =** **586 – 50 =**	**789 – 50 =**	
Find 100 less than a given number mentally **e.g.** **462 – 100 =** **934 – 100 =**	Link to oral counting in 100s from any 3 digit number. Answer questions such as: **348 – 100 =** **725 – 100 =** **967 – 100 =**	
Subtract mentally 3 digit numbers and 100s **e.g.** **823 – 200 =** **541 – 400 =**	Link to oral counting in 100s from any 3 digit number and place value of digits. Answer questions such as: **478 – 200 =** **699 – 400 =** **623 – 500 =**	
To recall subtraction facts to 100. Relate to subtraction facts to 100. **e.g.** **45 + 55 = 100** **100 – 55 = 45**	Using subtraction facts to 100. If they know: **37 + 63 = 100 then 100 – 63 = 37 and 100 – 37 = 63** **25 + 75 = 100 then 100 – 25 = 75 and 100 – 75 = 25**	
Apply place-value knowledge (scaling facts by 10)	Use scaling facts by 10 to answer questions such as: **9 – 5 = 4** **90 – 50 = 40** **900 – 500 = 400**	
Subtract up to two 3 digit numbers using formal	Use base ten/ Place value counters to subtract HTO - TO and HTO - HTO. 435 – 273 = 162 5 ones – 3 ones	Children will use formal column subtraction

columnar method. **e.g.** **789 – 264 =** **459 – 346 =** **Formal Written method Complete without exchange first**	3 tens – 7 tens can't do it so exchange a hundred for 10 tens. 3 hundreds – 2 hundreds. 	
Year 4		
Find 1000 less than a number	Link to counting backwards in 1000s. 4597 – 1000 = 7954 – 1000 =	
Round and Adjust **E.g.** **- 9** **-19** **-99** **-199**		
Subtract numbers with up to 4 digits using formal written method of column subtraction **e.g.**	Use base 10 or place value counters	Formal method of column subtraction

1378 + 2148 = 3526 **Formal Written method.**	4,357 – 2,735 = 1,622 	
Solve simple money and measure problems involving decimals to two decimal places.	Use the formal column method to subtract decimals in the context of measures and money  	
Year 5		
Subtract increasingly larger numbers mentally		
Subtract 10,100 and 1000 from any number up to 6 digits.	(Numbers up to 6 digits) Use Place value and number decomposition. Display numbers and look at patterns and changes when subtracting 10, 100 etc. Pay particular attention to boundaries. **413,629 – 100 =** **523, 987 – 1000 =** **205,487 – 1000 =**	
Subtract 10,000 and 100,000 from any number up to 6 digits.	Numbers up to 6 digits. **593, 624 – 10,000 =** **730,154 – 100,000 =**	

Subtract any multiple of 10, 100 and 1000 from any number up to 6 digits	Numbers up to 6 digits. **625,487 – 20 =** **268,102 – 300 =** **569,874 – 2,000 =**	
Subtract any multiple of 10,000 and 100, 000 from any number up to 6 digits	Numbers up to 6 digits. **654,326 – 30,000 =** **948 , 625 – 400,000 =**	
Round and adjust Subtract a near multiple of 1000 to a four digit number	 **456, 789 – 1999 =** **456, 789 – 2000 = 454, 789** **454, 789 + 1 = 454, 790**	
Subtract more than 4 digits (5, once secure move to 6 digit numbers)	Use place value charts and place value counters 294,382 – 182,501 = 111,881	Most children should by now be working more in abstract and using column method to subtract efficiently Use formal column method to subtract 5/6 digit numbers. 294,382 – 182,501 = 111,881

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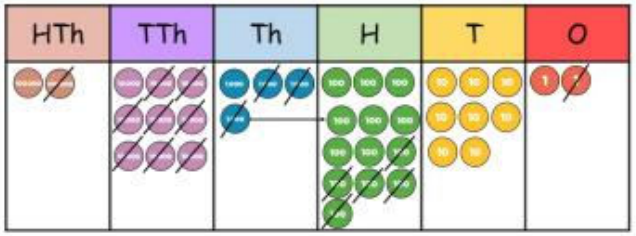
<td> 
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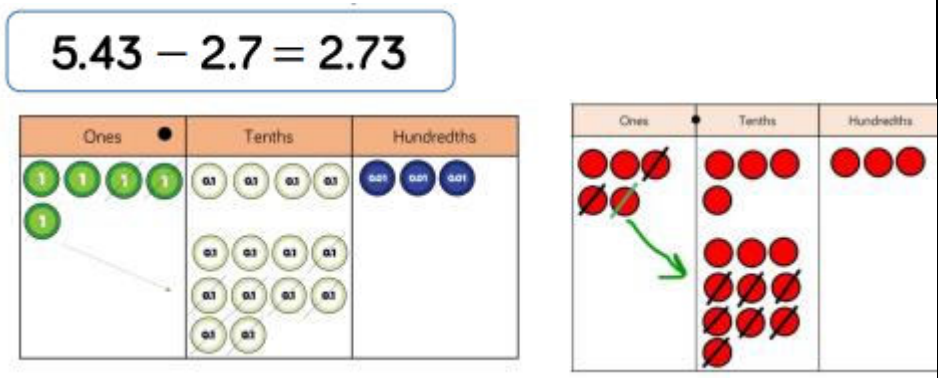
<td>Subtract numbers up to three decimal places

Formal Written method</td>
<td>Use place value charts and place value counters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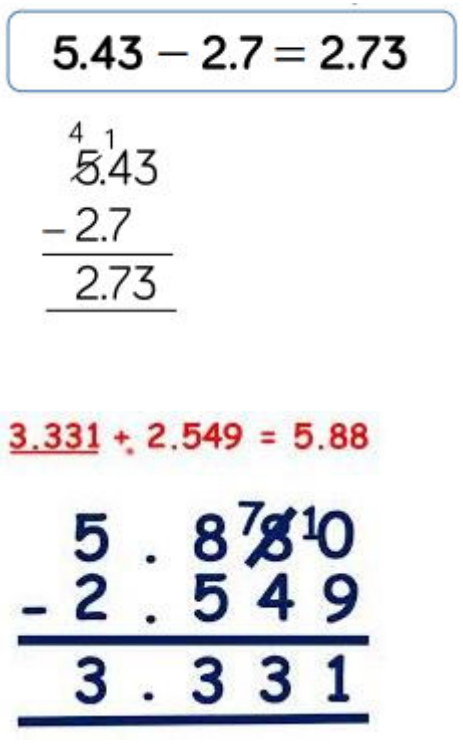
<td>Use formal column method to subtract decimals. Making sure children are placing digits in correct columns. See following examples. They may be in the context of real life problems involving money or measures.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<tr>
<td colspan="3">Year 6</td>
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<tr>
<td>Perform mental</td>
<td colspan="2">Review all previously taught strategies from Year 5 and below securing confidence and speed of recall.</td>
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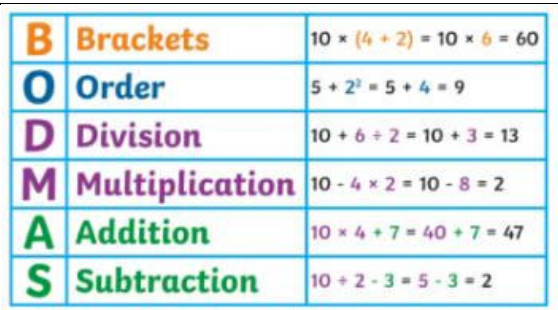
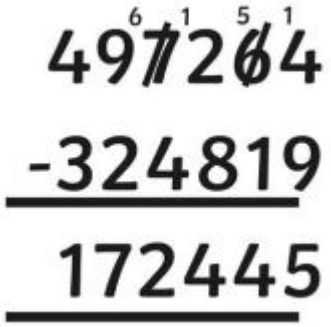
calculations, including with mixed operations and large numbers	
Use efficient methods to Subtract 6 digit numbers **Formal written method** **Linked to solve problems Subtraction multi-step problems in context**	For example: 
Examples from SATs arithmetic	7,064 – 500 = **multiples of 100** ? – 10 = 298 **multiples of 10 - opposite** ? = 5,776 – 855 **formal coloumn** 10 – 5.4 = **decimals – place value** 6 – 5.738 = **decimals – place value**