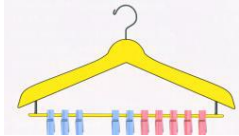


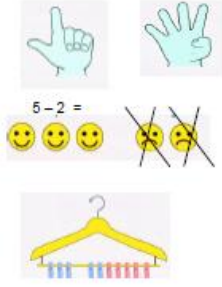
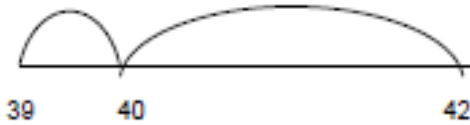
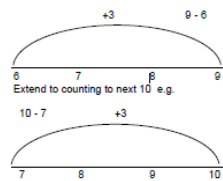


Maths Calculation –Subtraction

Foundation Stage

<p>Foundation Stage Curriculum</p>	<ul style="list-style-type: none"> • MN14 Recognise some numerals of personal significance • MN15 Recognise numerals 1 to 5 • MN16 Count up to three or four objects by saying one number name for each item • MN17 Count actions or objects which cannot be moved • MN18 Count objects to 10 and begin to count beyond 10 • MN19 Count out up to six objects from a larger group • MN20 Select the correct numeral to represent 1 to 5, then 1 to 10 objects • MN21 Count an irregular arrangement of up to ten objects • MN22 Estimate how many objects they can see and check by counting them • MN23 Use the language of 'more' and 'fewer' to compare two sets of objects • MN24 Find the total number of items in two groups by counting all of them • MN25 Say the number that is one more than a given number • MN26 Find one more or one less from a group of up to five objects, then ten objects • MN27 In practical activities and discussions, begin to use the vocabulary involved in adding and subtracting • MN28 Record using marks that they can interpret and explain • MN29 Begin to identify own mathematical problems based on own interests and fascinations <p>Early Learning Goal</p> <p>Count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given numbers. Use quantities and objects, add and subtract two single-digit numbers and count on or back to find the answer. Solve problems including doubling, halving and sharing.</p>
<p>Mental and jottings</p>	<ul style="list-style-type: none"> • Simple verbal word problems • Opportunities to record voluntary in writing • Find the difference between numbers <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"> $7 - 3 = \square$ $7 - \square = 4$ $\square - 3 = 4$ $\square - \nabla = 4$ </div> <div style="margin-right: 20px;"> $\square = 7 - 3$ $4 = \square - 3$ $4 = 7 - \square$ $4 = \square - \nabla$ </div> <div style="text-align: center;">  </div> <div style="margin-left: 20px;">   </div> </div>
<p>Written</p>	<ul style="list-style-type: none"> • Begin to write formal number sentences – e.g. $7 - 3 = 4$ (Give visual representation such as seven dots, cross out 3 leaving 4)
<p>Underlying Skills</p>	<ul style="list-style-type: none"> • Number recognition 0 – 20 • Know that numbers identify how many objects are in a set • Recognise numbers and represent them using objects up to 20 • Count objects accurately using one to one correspondence matching a number name to each object • Count backwards from numbers up to 20 • Count on from number other than 0
<p>Vocabulary</p>	<ul style="list-style-type: none"> • 1 more, 1 less, two less, ten less • Which has more? Less? Fewer? • What's the difference? • Difference between? • Take away • Minus • Subtract • Count back – how many more make? How many more than? • How many are left/left over?

Key Stage 1

	Year 1	Year 2																																
Mental and jottings	<ul style="list-style-type: none"> Represent and use number bonds and related subtraction facts within 20  $7 - 3 = \square \quad \square = 7 - 3$ $7 - \square = 4 \quad 4 = \square - 3$ $\square - 3 = 4 \quad 4 = 7 - \square$ $\square - \nabla = 4 \quad 4 = \square - \nabla$ <ul style="list-style-type: none"> Ask children to put a number in their head then take away a number – e.g. 8 in your head, now take away 4 – how many are left? 	<ul style="list-style-type: none"> Recall and use subtraction facts to 20 fluently and derive and use related facts up to 100 e.g. $20 - 2 = 18$, $200 - 20 = 180$ Subtract number using concrete objects, pictorial representations, and mentally including: <ul style="list-style-type: none"> A 2 digit number and ones A w digit number and tens Two 2 digit number Adding three 1 digit numbers Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems Find a small difference by counting on  <ul style="list-style-type: none"> Use number lines to count backwards Show calculations such as $46 - 10$ using dienes blocks – e.g. 4 ten rods and 6 units remove 1 ten is the same as $46 - 10$ 																																
Written	<ul style="list-style-type: none"> Subtract 1 digit and 2 digit numbers to 20 including zero e.g. $7 - 5 = 2$. $19 - 6 = 13$ Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Count back on a number line Count back on an empty number line (e.g. $11 - 4$) Find a small difference by counting on, children to use number tracks and blank number lines 	<ul style="list-style-type: none"> Know that whilst addition can be done in any order – this is not the same with subtraction Use visual models and Dienes apparatus – remembering to subtract the units first e.g. <table border="1"> <tr> <td></td> <td>Tens 40</td> <td>Units 7</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>-</td> <td>20</td> <td>3</td> </tr> <tr> <td>=</td> <td>20</td> <td>4</td> </tr> </table> <ul style="list-style-type: none"> Progress to number such as $43 - 27$ <table border="1"> <tr> <td></td> <td>Tens 40</td> <td>Units 3</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Cannot take 7 away from 3 at the moment. We have to reparation.</td> </tr> <tr> <td></td> <td>30</td> <td>13</td> <td></td> </tr> <tr> <td>-</td> <td>20</td> <td>7</td> <td>Use complementary addition as a mental process to count up from 7 to 13, and 20 to 30.</td> </tr> <tr> <td>=</td> <td>10</td> <td>6</td> <td></td> </tr> </table>		Tens 40	Units 7				-	20	3	=	20	4		Tens 40	Units 3					Cannot take 7 away from 3 at the moment. We have to reparation.		30	13		-	20	7	Use complementary addition as a mental process to count up from 7 to 13, and 20 to 30.	=	10	6	
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=	10	6																																

Maths Calculation –Subtraction

<p>Underlying Skills</p>	<ul style="list-style-type: none"> • Number recognition 0 – 100 • Counting back from any number to 100 • Interpreting a number sentence – knowing what number to start at and how many jumps to do • Memorise and reason with number bonds to 10 and 20 in several forms (for example $9 + 7 = 16$, $16 - 7 = 9$, $7 = 16 - 9$) • Know the effect of adding or subtracting zero • Establish addition and subtraction as related operation • Combine and increase numbers, counting forwards and backwards • Discuss and solve problems in familiar practical contexts, including using quantities • Know by heart subtraction facts for numbers to 10 • Comparing two sets to find the difference 	<ul style="list-style-type: none"> • Subtracting within 20 • Subtracting multiples of 10
<p>Vocabulary</p>	<ul style="list-style-type: none"> • Subtract, minus, subtraction, jumps, number line 	<ul style="list-style-type: none"> • Total, take away, distance between, difference between, more than, less than • Exchanging – exchange

Lower Key Stage 2

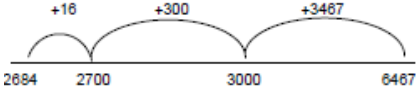
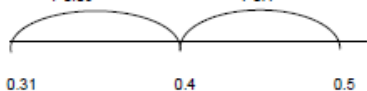
	Year 3	Year 4
<p>Mental and jottings</p>	<ul style="list-style-type: none"> Subtract numbers mentally including: <ul style="list-style-type: none"> ❖ A 3 digit number and ones ❖ A 3 digit number and tens ❖ A 3 digit number and hundreds For mental calculations with 2 digit numbers the answers could exceed 100 Use jottings for mental maths Counting back by putting numbers in your head (small difference) e.g. $327 - 6$, $323 - 7$ Counting back in tens for calculations like $383 - 40$ and $326 - 80$ Include jottings to find difference by complementary addition e.g. <div style="text-align: center;"> $47 - 12$ </div> <ul style="list-style-type: none"> Pencil and paper jottings could include: <div style="text-align: center;"> <p>Complementary addition $754 - 286 = 468$</p> </div> <p>And shown as an arrow method: $754 - 286 =$</p> $ \begin{array}{r} 286 \rightarrow 290 = 4 \\ 290 \rightarrow 300 = 10 \\ 300 \rightarrow 700 = 400 \\ 700 \rightarrow 754 = 54 + \\ \quad 400 \\ \quad 60 \\ \quad \underline{8} + \\ 468 \end{array} $ <p><u>Use known number facts and place value to subtract</u> When secure with number line pupils to move to: $6.1 - 0.4 = 5.7$</p> <div style="text-align: center;"> </div> <p>Then move onto arrow method using decimals in the same way</p>	<ul style="list-style-type: none"> The same as for Year 3 Estimate and use inverse operations to check answers to a calculation Mental calculations with jottings such as those below: <hr/> <p><u>- = signs and missing numbers</u> Continue using a range of number sentences as in Year 1 and 2, but with appropriate numbers.</p> <p><u>Find a small difference by counting on</u> e.g. $5003 - 4996 = 7$ $701 - 699 = 2$</p> <p>As for year 3, using empty number line and compacted complimentary addition.</p> <p>Some children move onto using complimentary addition/arrow method:</p> $45 - 16 =$ $ \begin{array}{r} 16 \rightarrow 20 = 4 \\ 20 \rightarrow 40 = 20 \\ 40 \rightarrow 45 = 5 + \\ \quad \underline{29} \end{array} $
<p>Written</p>	<ul style="list-style-type: none"> Subtract with numbers up to 3 digits using columnar subtraction methods Practise solving varied addition and subtraction questions Use Dienes apparatus to show exchanging tens and units <div style="text-align: center;"> </div>	<ul style="list-style-type: none"> Subtract numbers with up to 4 digits using the formal written methods of columnar subtraction Continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency <p>e.g. 874 $\begin{array}{r} 874 \\ -523 \\ \hline 351 \end{array}$</p>

Maths Calculation –Subtraction

	<p>Progress to using standard written form with exchanging tens for units similar to this example, supported with Dienes apparatus.</p> <div style="text-align: center; background-color: #d9ead3; padding: 10px; border: 1px solid #ccc;"> $\begin{array}{r} \overset{3}{\cancel{4}}3 \\ - \underline{27} \\ \hline 16 \end{array}$ </div> <p>(When children are ready and able and have a secure understanding of place value in this context – substitute Dienes with small counters)</p>	
<p>Underlying Skills</p>	<ul style="list-style-type: none"> • Bridge through 10s and 100s when counting • Partition numbers • Complementary addition as a mental method • Using understanding of place value to partition 	
<p>Vocabulary</p>		

Maths Calculation –Subtraction

Upper Key Stage 2

	Year 5	Year 6
Mental and jottings	<ul style="list-style-type: none"> Subtract mentally using increasingly large numbers 	<ul style="list-style-type: none"> Mental methods supported by jotting such as complementary addition - <p>$6467 - 2684 = 3783$</p>  <p>2684 2700 3000 6467</p> <p>Then using arrow method as for year 5, but with larger numbers.</p> <p>Find a difference by counting on</p> <p>e.g. $0.5 - 0.31 = 0.19$ This can be modelled on an empty number line (see complementary addition below).</p>  <p>0.31 0.4 0.5</p> <p>When secure with number line pupil to move to: $6467 - 2684 = 3783$</p> $\begin{array}{r} 6467 \\ -2684 \\ \hline 16 \quad (2700) \\ 300 \quad (3000) \\ \hline 3467 \quad (6467) \\ 3783 \end{array}$
Written	<ul style="list-style-type: none"> Subtract whole numbers with more than 4 digits including formal written methods (columnar) Decomposition method e.g. $\begin{array}{r} 31 \\ 43 \\ - 27 \\ \hline 16 \end{array}$ <ul style="list-style-type: none"> Apply same method to 4 digit subtraction calculations and ensure children know how to deal with zeros in the tens $\begin{array}{r} \text{H T U} \\ 9 \\ \hline 231016 \\ - 129 \\ \hline 177 \end{array}$	<ul style="list-style-type: none"> The same as for Year 5
Underlying Skills		<ul style="list-style-type: none"> Practise subtraction with larger numbers using formal columnar subtraction
Vocabulary		