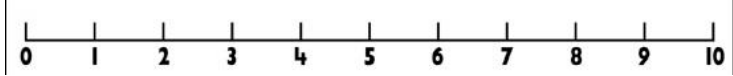
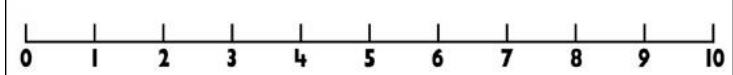


CALCULATION POLICY: SUBTRACTION

The policy gives an outline of the small steps of progression matched to the expectations for each year group according to the new 2014 National Curriculum. Some examples are included and further ones can be added to your document.

Concrete objects as models, such as cubes, counters, Dienes blocks, Cuisenaire rods and Numicon need to be used to help children gain conceptual understanding, supported by images such as number lines and 100 squares to develop mental pictures as a step from counting to calculation. Fluency in mental strategies and quick recall of facts need to be established before using a formal written method, but informal jottings and a recorded mental method can help bridge the mental and written methods so that each stage of the chosen written method is understood.

Year 1

Subtraction steps	Example
Count back on a number line to subtract	<p>What is 2 less than 5? Show me on this number line.</p> 
Develop quick recall of subtraction facts to 5, using the symbols - and =	<p>5 - 3 = ___ 4 - 1 = ___ 3 - 2 = ___</p>
Find the difference between two sets of up to 10 objects	<p>Count the number of cubes in each bag. Find the difference between the number of cubes to work out how many more are in this bag.</p>
Find the difference between numbers to 10 by counting on a number line	<p>What is the difference between 6 and 9? Show me how you worked it out on this number line.</p> 
Develop quick recall of subtraction facts to 10	<p>8 - 3 = ___ 6 - 5 = ___ 9 - 6 = ___</p>

Understand the inverse relationship between addition and subtraction	<i>Look at this addition: $5 + 3 = 8$ Can you make a subtraction sentence using those numbers?</i>
Use inverse relationship to solve missing number calculations to 10	<i>What number goes in the box to make this calculation correct? $\square - 6 = 2$ How do you know?</i>
Produce number stories involving subtraction to 10	<i>Here are some cubes. Show me how to use them to work out nine take away four. How could you record that as a number sentence? Can you make up a number story for this?</i>
Say a number that is one less than any number to 20	<i>What is one less than fourteen?</i>
Find the difference between numbers to 20 by counting on a number line	<i>Make up a question that uses the words difference between and tell me how to do it. Can you use the number track to work out the difference between 15 and 8? If I start at 7 and count 8 more squares along the number track, where will I stop?</i>

Year 2

Subtraction steps	Example
Develop quick recall of subtraction facts to 20	<i>Look at this number sentence: $\square - \square = 8$ What could the missing numbers be?</i>
Use inverse relationship to solve missing number calculations to 20	<i>What number goes in the box to make this calculation correct? $\square - 7 = 8$ How do you know?</i>
Produce number stories involving subtraction to 20	<i>Make up a number story for $14 - 8$.</i>
Recall subtraction facts for multiples of 10 to 90	<i>Alice and Ben play a game. Alice scores 90 points. Ben scores 60 points. How many more points does Alice score than Ben?</i>
Subtract tens from 2-digit numbers	<i>What is 57 take away 30? How did you work it out?</i>
Use mental strategies for TU – U without crossing the tens	<i>What is 68 subtract 5? How did you work it out?</i>
Use mental strategies for TU – TU without crossing the tens	<i>What is 76 subtract 41? How did you work it out?</i>
Subtract units from tens	<i>How would you work out 30 subtract 6? Show me on a number line.</i>
Use mental strategies for TU – U up to and then crossing the tens	<i>Rachel spent 64p. She spent 8p more than Sam. How much did Sam spend? What calculation is needed? How did you decide? How did you record it?</i>

<p>Use mental strategies for TU – TU crossing the tens</p>	<p><i>What is 53 subtract 28? How did you work it out?</i></p> <p><i>What is the difference between 39 and 62? Use a number line to show your method.</i></p>
<p>Calculate the value of a missing number in a mental subtraction</p>	<p><i>What number goes in the box to make this calculation correct? $\square 48 - \square = 27$</i></p> <p><i>How do you know?</i></p>
<p>Use a formal written method for TU-TU</p>	<p><i>What is 67 subtract 35? 1. Subtract the ones 7-5 2. Subtract the tens 60-30</i></p> $ \begin{array}{r} 60 + 7 \\ - 30 + 5 \\ \hline 30 + 2 \end{array} \qquad \begin{array}{r} 6 \ 7 \\ - 3 \ 5 \\ \hline \ 2 \end{array} \qquad \begin{array}{r} 6 \ 7 \\ - 3 \ 5 \\ \hline 3 \ 2 \end{array} $

Year 3

Subtraction steps	Example			
Use mental strategies to subtract ones, tens and hundreds from a 3-digit number	What is 345 subtract 90? How did you work it out?			
Use a formal written method for TU-TU with exchange	<p>What is 74 subtract 35?</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;"> $\begin{array}{r} \overset{6}{\cancel{7}}4 \\ - 35 \\ \hline 9 \end{array}$ <p>Step 1 Exchange and rename 70 + 4 as 60 + 14 14 - 5 = 9</p> </td> <td style="text-align: center; width: 50%;"> $\begin{array}{r} \overset{6}{\cancel{7}}4 \\ - 35 \\ \hline 39 \end{array}$ <p>Step 2 60 - 30 = 30</p> </td> </tr> </table>	$\begin{array}{r} \overset{6}{\cancel{7}}4 \\ - 35 \\ \hline 9 \end{array}$ <p>Step 1 Exchange and rename 70 + 4 as 60 + 14 14 - 5 = 9</p>	$\begin{array}{r} \overset{6}{\cancel{7}}4 \\ - 35 \\ \hline 39 \end{array}$ <p>Step 2 60 - 30 = 30</p>	
$\begin{array}{r} \overset{6}{\cancel{7}}4 \\ - 35 \\ \hline 9 \end{array}$ <p>Step 1 Exchange and rename 70 + 4 as 60 + 14 14 - 5 = 9</p>	$\begin{array}{r} \overset{6}{\cancel{7}}4 \\ - 35 \\ \hline 39 \end{array}$ <p>Step 2 60 - 30 = 30</p>			
Use a formal written method for HTU-HTU	<p>What is 734 subtract 385?</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"> $\begin{array}{r} 7\overset{2}{\cancel{3}}4 \\ - 385 \\ \hline 9 \end{array}$ <p>Step 1 Exchange and rename 30 + 4 as 20 + 14 14 - 5 = 9</p> </td> <td style="text-align: center; width: 33%;"> $\begin{array}{r} \overset{6}{\cancel{7}}\overset{12}{\cancel{3}}4 \\ - 385 \\ \hline 49 \end{array}$ <p>Step 2 Exchange and rename 700 + 20 as 600 + 120 120 - 80 = 40</p> </td> <td style="text-align: center; width: 33%;"> $\begin{array}{r} \overset{6}{\cancel{7}}\overset{12}{\cancel{3}}4 \\ - 385 \\ \hline 349 \end{array}$ <p>Step 3 600 - 300 = 300</p> </td> </tr> </table>	$\begin{array}{r} 7\overset{2}{\cancel{3}}4 \\ - 385 \\ \hline 9 \end{array}$ <p>Step 1 Exchange and rename 30 + 4 as 20 + 14 14 - 5 = 9</p>	$\begin{array}{r} \overset{6}{\cancel{7}}\overset{12}{\cancel{3}}4 \\ - 385 \\ \hline 49 \end{array}$ <p>Step 2 Exchange and rename 700 + 20 as 600 + 120 120 - 80 = 40</p>	$\begin{array}{r} \overset{6}{\cancel{7}}\overset{12}{\cancel{3}}4 \\ - 385 \\ \hline 349 \end{array}$ <p>Step 3 600 - 300 = 300</p>
$\begin{array}{r} 7\overset{2}{\cancel{3}}4 \\ - 385 \\ \hline 9 \end{array}$ <p>Step 1 Exchange and rename 30 + 4 as 20 + 14 14 - 5 = 9</p>	$\begin{array}{r} \overset{6}{\cancel{7}}\overset{12}{\cancel{3}}4 \\ - 385 \\ \hline 49 \end{array}$ <p>Step 2 Exchange and rename 700 + 20 as 600 + 120 120 - 80 = 40</p>	$\begin{array}{r} \overset{6}{\cancel{7}}\overset{12}{\cancel{3}}4 \\ - 385 \\ \hline 349 \end{array}$ <p>Step 3 600 - 300 = 300</p>		

Year 4

Subtraction steps	Example
Use a formal written method for subtracting 4-digit numbers	<p><i>What is 2734 subtract 1385?</i></p> $\begin{array}{r} 2734 \\ - 1385 \\ \hline 1349 \end{array}$
Use a formal written method to subtract money using decimal notation to tenths	<p><i>What is the difference in price between two bags costing £18.60 and £32.10?</i></p>

Year 5

Subtraction steps	Example
Use a formal written method to subtract units of measure using decimal notation to tenths	<i>What is 38.60 litres subtract 19.50 litres?</i>
Use a formal written method to subtract money using decimal notation to hundredths	<i>What is the difference in price between two coats costing £39.45 and £53.12?</i>
Use a formal written method to subtract units of measure using decimal notation to hundredths	<i>What is the difference in weight between two sacks weighing 13.65kg and 22.08kg?</i>
Use a formal written method to subtract larger numbers	<i>A car is driven 13458 km in one year. The following year it is driven for 18906 km. How many more kilometres has been driven in the second year?</i>
Subtract numbers mentally with increasingly large numbers	<i>What is the difference between in age between someone born in 1968 and someone born in the year 2000?</i>
Subtract fractions with the same denominator	<i>I have 3 cakes that I cut into quarters. If I take 7 of the quarters, how much cake is left? What is $7/8 - 3/8$?</i>

Year 6

Subtraction steps	Example
Use a formal written method to subtract decimals to thousandths	<p>Write the missing digits in this subtraction:</p> $\begin{array}{r} 535.23* \\ - 1*8.384 \\ \hline 366.9*3 \end{array}$
Use brackets in calculations and know the order of operations	<p>Answer these:</p> $(15 - 8) \times (7 + 6) =$ $(9 + 15) - (8 \div 2) =$
Find the difference between positive and negative numbers or two negative numbers	<p>Tell me two temperatures that lie between 0°C and -8°C. Which is the higher? How can you tell? What is the difference between the higher temperature and -8°C?</p>
Subtract fractions with different denominators	<p>What is $4\frac{1}{4} - 2\frac{1}{2}$? Explain the method you used to work it out.</p>