

Calculation policy



Subtraction

Reception							
Objective / strategy	Concrete	Pictorial	Abstract				
Match and sort							
Compare amounts							
Representing, comparing, composition of numbers 1-10 (completed in phases throughout the year)	<p>Use toys and general classroom resources for children to physically manipulate, group/regroup.</p>	<p>A group of pictures for children to cross out or cover quantities to support subtraction.</p>	<table border="1"> <tr> <td>3</td> <td>?</td> </tr> <tr> <td>7</td> <td></td> </tr> </table> <p>7 - 3 = ?</p>	3	?	7	
3	?						
7							
One less							
Taking away							
Even and odd	<p>Use visual supports such as ten frames, part part whole and subtraction mats, with the physical objects and resources that can be manipulated.</p>	<p>Use visual supports such as ten frames, part part whole and bar model with pictures/icons.</p>	<p>A focus on symbols and numbers to form a calculation.</p> <p>No expectation for children to be able to record a number sentence/addition calculation.</p>				

Adapted from White Rose Calculation policy

| Page

Calculation policy



Subtraction

Year 1

Objective / strategy	Concrete	Pictorial	Abstract
Taking away ones	<p>Concrete:</p> $6 - 4 = 2$ $4 - 2 = 2$ <p>Pictorial:</p> $6 - \underline{4} = \underline{\underline{2}}$ <p>Abstract:</p> $7 - 3 = 4$	<p>Cross out drawn objects to show what has been taken away.</p>	
Counting back	<p>Concrete:</p> <p>First Then Now:</p> <p>Move objects away from the group, counting backwards.</p> <p>Move the beads along the bead string as you count backwards.</p>	<p>Pictorial:</p> $1 \ 2 \ 3 \ \textcolor{red}{4} \ 5 \ 6 \ \textcolor{red}{7} \ 8 \ 9 \ 10$ <p>Abstract:</p> $5 - 3 = 2$ <p>Ten frames, number tracks and single bar support reduction.</p>	<p>Put 7 in your head and count back 3.</p> <p>What number do you arrive at?</p>

Calculation policy

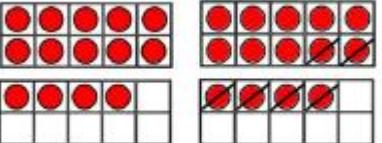
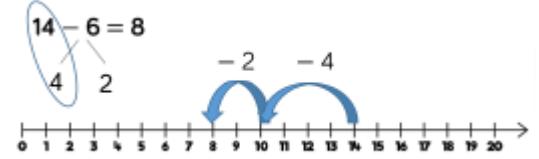
Subtraction

<p>Finding the difference</p> <p>Lay objects to represent bar models.</p>	<p>Count on using a number line to find the difference.</p>	<p>Hannah has 12 sweets and her sister has 5. How many more does Hannah have than her sister?</p>
<p>Represent and use number bonds and related subtraction facts within 20 (part, part, whole model).</p> <p>Link to addition. Use Part, part whole model to show the inverse using concrete objects.</p>	<p>Use pictorial representations or drawings to show the part.</p>	<p>Move to using numbers within the part whole model.</p>

Calculation policy



Subtraction

<p>Make 10</p>  <p>$14 - 6 = 8$</p> <p>$\cancel{1} \cancel{4} - \cancel{6} = 8$</p> <p>Make 14 on the ten frame. Take away 4 to make ten, then take away 2 more.</p>	 <p>$14 - 6 = 8$</p> <p>4 2</p> <p>-2 -4</p> <p>Children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this.</p>	<p>14 – 6 = 8</p> <p>How many do we take off first to get to 10?</p> <p>How many do we have left to take off?</p>
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Key vocabulary and questions

-, subtract, take (away), minus, leave, difference between, (half, halve)

=, equals, sign, is the same as

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...?

Year 2

Objective / strategy	Concrete	Pictorial	Abstract
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Calculation policy

Subtraction

<p>Regrouping a ten into ten ones</p> <p>$42 - 17 = 25$</p> <p>Using a range of concrete resources such as place value counters of base 10. Show how you can exchange a ten into ten ones.</p>	<p>$42 - 17 = 25$</p> <p>unbundle group of 10 straws</p>	<p>$20 - 4 = 16$</p> <p>Children to use drawings to support the idea of exchanging a ten into ten ones before carrying out the subtraction.</p>	
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Calculation policy

Subtraction

<p>Partitioning in subtraction without regrouping.</p>	<p>Use base 10 to show how to partition the number when subtracting without regrouping.</p>	<p>Children draw representations and cross off.</p>	<p>Subtraction on an empty number line taking away the tens then the ones.</p>
<p>Making ten strategy</p>	<p>Use a bead bar or bead string to model counting to the next ten and the rest.</p>	<p>Use a number line to count on to the next ten and then the rest</p> <p>'counting on' to find 'difference'</p>	$72 - 35 = 37$ <p>Once fluent children should confidently jump in lots of tens rather than one ten at a time.</p>



Calculation policy

Subtraction

Key vocabulary and questions

-, subtract, subtraction, take (away), minus, leave, difference between, half, halve

=, equals, sign, is the same as

tens boundary

how many are left/left over?

one less, two less... ten less... one hundred less

how many fewer is... than...? how much less is...?

Year 3

Objective / strategy	Concrete	Pictorial	Abstract										
Column subtraction without exchanging.	 <p>At this stage, encourage children to use the formal column method when calculating alongside straws, base 10 or place value counters. As numbers</p>	<p>Draw representations to support understanding.</p>	<p>$74 - 23 = ?$</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 10px;">2</td> <td style="padding: 10px;">5</td> </tr> <tr> <td style="padding: 10px;">-</td> <td style="padding: 10px;">1</td> </tr> <tr> <td style="padding: 10px;">7</td> <td style="padding: 10px;">0</td> </tr> <tr> <td style="padding: 10px;">-</td> <td style="padding: 10px;">2</td> </tr> <tr> <td style="padding: 10px;">5</td> <td style="padding: 10px;">1</td> </tr> </table> <p>$\begin{array}{r} 74 \\ - 23 \\ \hline 51 \end{array}$</p> <p>Expanded column subtraction may be needed before moving onto the formal method. See guidance in addition policy.</p>	2	5	-	1	7	0	-	2	5	1
2	5												
-	1												
7	0												
-	2												
5	1												



Calculation policy

Subtraction

	<p>become larger straws become less efficient.</p>		
Column subtraction with exchanging starting with 2 digit numbers before moving to 3 digit.	<p>Hundreds Tens Ones</p> <p>Begin with base 10 or Numicon. Move then to place value counters, modelling the exchange of a ten into ten ones or hundred into ten tens.</p>	<p>Hundreds Tens Ones</p> <p>Children may draw base 10 or place value counters and cross off.</p>	$ \begin{array}{r} & ^3 & 1 \\ & 4 & 3 & 5 \\ - & 2 & 7 & 3 \\ \hline & & 2 & 6 & 2 \end{array} $ <p>Begin by partitioning into place value columns then move to the formal method.</p>



Calculation policy

Subtraction

Key vocabulary and questions

-, subtract, subtraction, take (away), minus, leave, difference between half, halve, decrease, descend.

how many are left/left over?

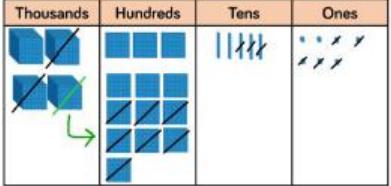
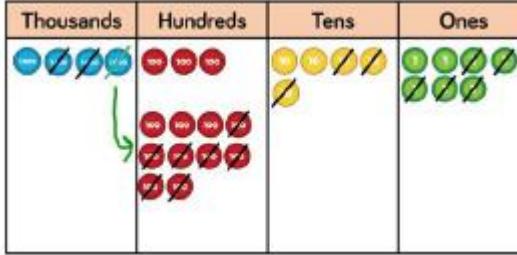
one less, two less... ten less... one hundred less

how many fewer is... than...?

how much less is...?

= equals, sign, is the same as, tens boundary, hundreds boundary

Year 4

Objective / strategy	Concrete	Pictorial	Abstract
<p>Subtracting tens and ones. Subtract with up to 4 digits.</p>  <p>Model process of exchange using Numicon, base ten and then move to place value counters.</p>	 <p>Children to draw place value counters and show their exchange - see Year 3.</p>	$ \begin{array}{r} 3\,1 \\ 4357 \\ - 2735 \\ \hline 1622 \end{array} $	



Calculation policy

Subtraction

Key vocabulary and questions

subtract, subtraction, take (away), minus, decrease, leave, how many are left/left over?

difference between, half, halve

how many more/fewer is... than...?

how much more/less is...?

equals, sign, is the same as, tens boundary, hundreds boundary

inverse

Year 5

Objective / strategy	Concrete	Pictorial	Abstract
Subtract with at least 4 digits, including money and measures.			$ \begin{array}{r} 4 & 1 \\ 5.43 \\ - 2.7 \\ \hline 2.73 \end{array} $
Subtract with decimal values, including mixtures of integers and decimals and aligning the decimal			$ \begin{array}{r} 7.169 \\ - 3.725 \\ \hline 6.796 \end{array} $



Calculation policy

Subtraction

<p>Subtract with increasingly large and more complex numbers and decimal values.</p>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td></td><td>2</td><td>9</td><td>3</td><td>1</td><td>3</td><td>8</td><td>2</td></tr> <tr> <td>-</td><td>1</td><td>8</td><td>2</td><td>5</td><td>0</td><td>1</td><td></td></tr> <tr> <td></td><td>1</td><td>1</td><td>1</td><td>8</td><td>8</td><td>1</td><td></td></tr> </tbody> </table>		2	9	3	1	3	8	2	-	1	8	2	5	0	1			1	1	1	8	8	1	
	2	9	3	1	3	8	2																			
-	1	8	2	5	0	1																				
	1	1	1	8	8	1																				

Key vocabulary and questions

subtract, subtraction, take (away), minus, decrease, leave, how many are left/left over?
 difference between, half, halve
 how many more/fewer is... than...?
 how much more/less is...?
 equals, sign, is the same as, tens boundary, hundreds boundary ones boundary, tenths boundary
 inverse

Year 6

Objective / strategy	Concrete	Pictorial	Abstract
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Calculation policy

Subtraction

Subtract with increasingly large and more complex numbers and decimal values.

$$\begin{array}{r} \textstyle\cancel{1}8\textstyle\cancel{1}0,6\textstyle\cancel{9}\textstyle\cancel{9} \\ - 89,949 \\ \hline 60,750 \end{array}$$

$$\begin{array}{r} \textstyle\cancel{1}10\textstyle\cancel{1}5 \cdot 34\textstyle\cancel{1}1\textstyle\cancel{9} \text{ kg} \\ - 36 \cdot 08\textstyle\cancel{0} \text{ kg} \\ \hline 69 \cdot 339 \text{ kg} \end{array}$$

Insert zeros for place value holders.

Key vocabulary and questions

subtract, subtraction, take (away), minus, decrease, leave, how many are left/left over?

difference between, half, halve

how many more/fewer is... than...?

how much more/less is...?

equals, sign, is the same as, tens boundary, hundreds boundary units boundary, tenths boundary

inverse