



Subtraction

Key Vocabulary: Take away, less than, the difference, subtract, minus, fewer, decrease, minuend, subtrahend.

CONCRETE

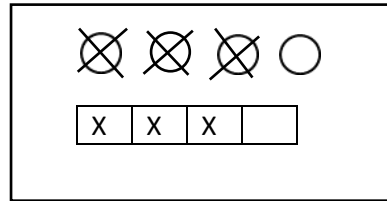
Physically taking away and removing objects from a whole (ten frames, Numicon, cubes and other items such as beanbags could be used).

$4 - 3 = 1$



PICTORIAL

Children to draw the concrete resources they are using and cross out the correct amount.

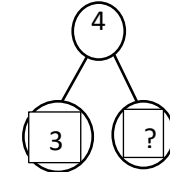


ABSTRACT

$4 - 3 =$

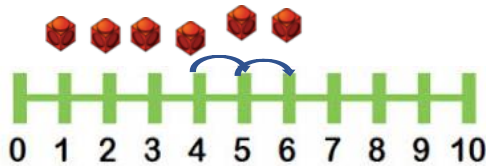
$\square = 4 - 3$

4	
3	?

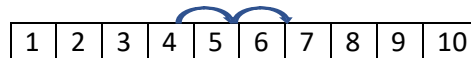
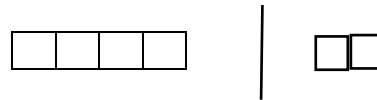


Counting back (using number lines or number tracks) children start with 6 and count back 2.

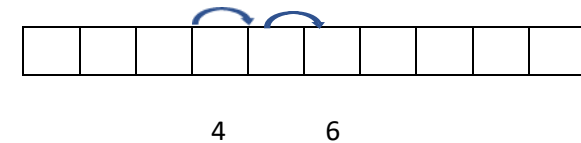
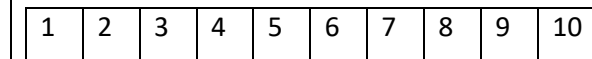
$6 - 2 = 4$



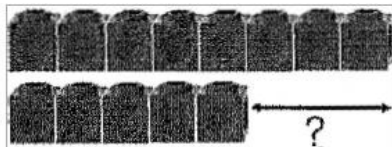
Represent what they see pictorially.



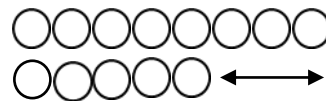
Represent the calculation on a number line



Finding the difference (using cubes, Numicon or Cuisenaire rods, other objects can also be used). Calculate the difference between 8 and 5.



Draw the cubes/other concrete objects which they have used or use the bar model to illustrate what they need to calculate.



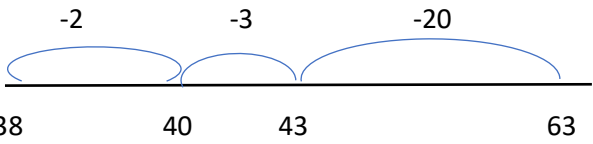
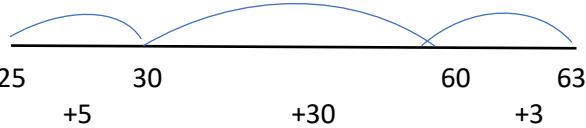
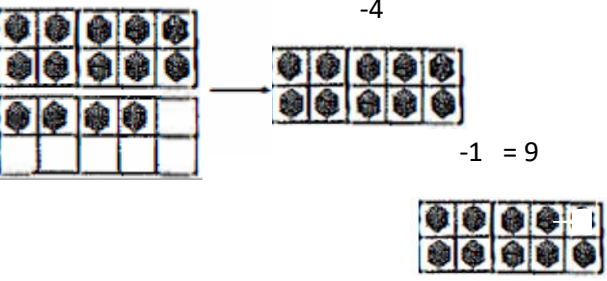
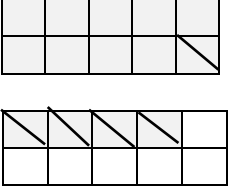
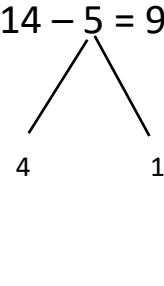
8	
5	?

Find the difference between 8 and 5. 8-5, the difference is ... Children to explore why 9 - 6 = 8 - 5 = 7 - 4 have the same difference.

$8 - 5, \text{ the difference is } \square$

Explore why
 $9 - 6 = 8 - 5 = 7 - 4$ have the same difference.



<p>63 - 35 =</p>	<p><u>Partitioning mentally</u> Partition the number to be subtracted into tens and ones and then subtract the tens. Then, partition the ones number to reach the next multiple of 0 and then subtract what's left to find their answer. e.g. 63 - 25. Step one: 25 is partitioned into 20 and 5 Step two: 20 is subtracted from 63 to reach 43 Step three: 3 is subtracted from 43 to reach 40 Step four: 2 is subtracted from 40 to reach 38.</p> 	<p><u>Using the counting up/on method</u> This method involves counting up from the smaller number to the larger number to find the difference between the two numbers. The first "jump" should take you to the next multiple of ten. After that it is easier to do bigger "jumps" in multiples often. Finally, any remaining ones are added on in order to reach your target number. The child adds together the numbers in the individual "jumps" to find the total difference between the two numbers.</p> 
<p>Making 10 using ten frames.</p> <p>14 - 5</p> 	<p>Children to present the ten frame pictorially and discuss what they did to make 10.</p> <p>14 - 5 = 9</p> 	<p>Show how you can make 10 by partitioning the subtrahend.</p> 



<p>Column method using base 10.</p>	<p>Represent the base 10 pictorially</p> <div style="text-align: center;"> <table style="margin: auto;"> <tr> <td style="border-right: 1px solid black; padding: 10px;"> </td> <td style="padding: 10px;"> </td> </tr> <tr> <td style="border-right: 1px solid black; text-align: center;">3</td> <td style="text-align: center;">1</td> </tr> </table> </div>			3	1	<p>Use the column method or count back 5.</p> $ \begin{array}{r} 36 \\ - 05 \\ \hline 31 \end{array} $
3	1					

<p>Column method using place value counters.</p> <div style="display: flex; align-items: center;"> <table border="1" style="margin-right: 10px;"> <tr><th>100s</th><th>10s</th><th>1s</th></tr> <tr><td>●</td><td>●●●●</td><td></td></tr> </table> → <table border="1" style="margin-right: 10px;"> <tr><th>100s</th><th>10s</th><th>1s</th></tr> <tr><td>●</td><td>●●●●</td><td>●●●●●●●●</td></tr> </table> </div> <div style="margin-top: 10px;"> <table border="1" style="margin-right: 10px;"> <tr><th>100s</th><th>10s</th><th>1s</th></tr> <tr><td>●</td><td>●●</td><td>●●●●●●●●</td></tr> </table> <p style="text-align: center;">1 2 7</p> </div>	100s	10s	1s	●	●●●●		100s	10s	1s	●	●●●●	●●●●●●●●	100s	10s	1s	●	●●	●●●●●●●●	<p>Represent the base 10 pictorially, remembering to show the exchange. 153 - 26</p> <div style="text-align: center;"> <table style="margin: auto;"> <tr> <td style="border-right: 1px solid black; padding: 10px;">100</td> <td style="border-right: 1px solid black; padding: 10px;">10</td> <td style="padding: 10px;">1</td> </tr> <tr> <td style="border-right: 1px solid black;">●</td> <td style="border-right: 1px solid black;">●●●●</td> <td>●●●●●●●●</td> </tr> <tr> <td style="border-right: 1px solid black; text-align: center;">1</td> <td style="border-right: 1px solid black; text-align: center;">2</td> <td style="text-align: center;">7</td> </tr> </table> </div>	100	10	1	●	●●●●	●●●●●●●●	1	2	7	<p>Formal column method. Children must understand that when they have exchanged the 10 they still have 53 because 53 = 40 + 13.</p> $ \begin{array}{r} 14513 \\ - 26 \\ \hline 127 \end{array} $
100s	10s	1s																											
●	●●●●																												
100s	10s	1s																											
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100	10	1																											
●	●●●●	●●●●●●●●																											
1	2	7																											

Conceptual variation; different ways to ask children to solve 391-186

<div style="text-align: center;"> </div> <div style="margin-top: 20px;"> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px; text-align: center;">391</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px; text-align: center;">186</td> <td style="width: 20px;"></td> <td style="width: 20px; text-align: center;">?</td> <td style="width: 20px;"></td> </tr> </table> </div>			391				186		?		<p>Susan spent £391, Timmy spent £186.</p> <p>How much more did Raj spend?</p> <p>Calculate the difference between 391 and 186.</p>	<p>What is 186 less than 391?</p> $ \boxed{?} = 391 - 186 $ $ \begin{array}{r} 391 \\ - 186 \\ \hline \end{array} $	<p>Missing digit calculations</p> $ \begin{array}{r} 3 \square 1 \\ 18 \square \\ \hline \square 0 5 \end{array} $
		391											
	186		?										

