

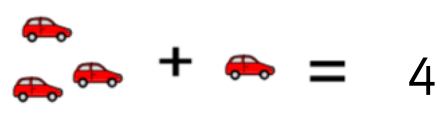

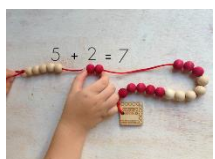
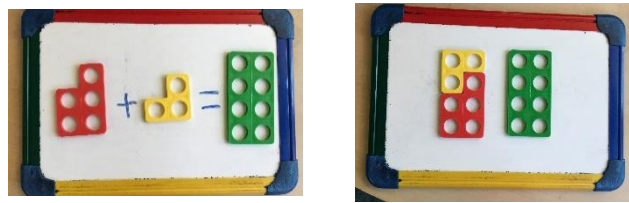
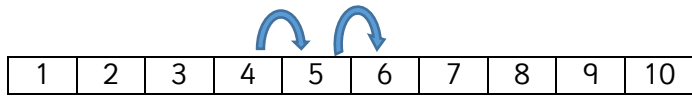
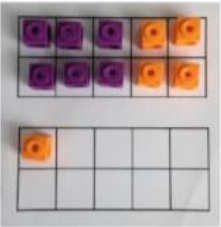
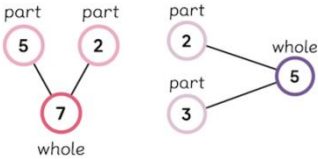
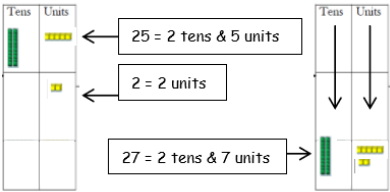
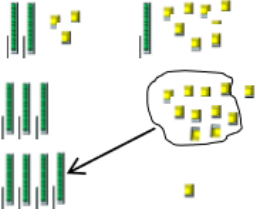



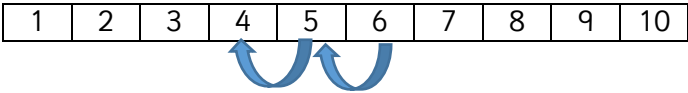

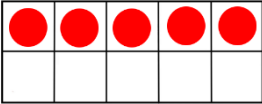
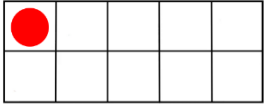
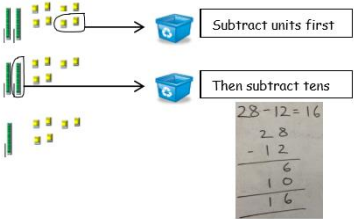
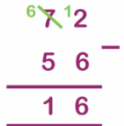

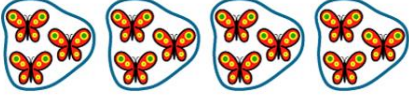
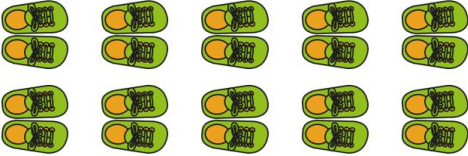
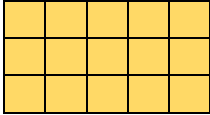



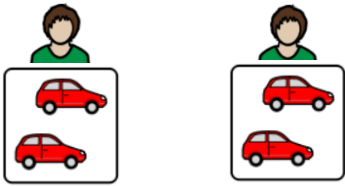
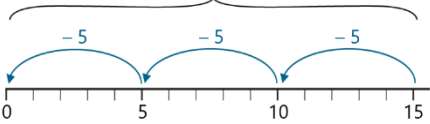
## Methods for Calculation

Addition	
<b>Key Vocabulary:</b> add, more, and, make, sum, total, altogether, one more, two more, how many more to make...?, how many more is... than...?	
Method	Example
Using a range of practical resources and real life contexts, pupils develop their understanding of the concept of addition through counting activities.  Concrete	How many bears are there?   How many bears are there if I add one more? 
Using the addition symbol (+) and pictures/diagrams to represent the calculation  Pictorial	
Start with the bigger number and using your fingers count on.  Concrete	$3 + 5 = 8$ 
Use of counting beads.  Concrete	
Use of Numicon to support addition and number bonds.  Concrete	
Using a number track.  Pictorial and Abstract (writing the number sentence)	 $4 + 2 = 6$

<p>'The Magic 10' Regrouping to make 10 so that the calculation is easier. (Using a Tens frame)</p> <p>Concrete</p>	<div> <div> <math>6 + 5 = 11</math> </div> <div> <p>Start with the bigger number and use the smaller number to make 10.</p> </div> <div>  <div> <div>10</div> <div>1</div> </div> </div> </div>
<p>Use of the 'Part-Whole' Model</p> <p>Pictorial</p>	
<p>Addition using dienes counters adding a two-digit number to a one-digit number.</p> <p>Concrete</p>	<div> <math>25 + 2</math>  </div>
<p>Addition using dienes counters adding a two-digit number to a two-digit number crossing the tens-barrier.</p> <p>Concrete</p>	<div> <math>23 + 18 = 41</math>  </div>
<p>Use of the addition sign in a number sentence.</p> <p>Abstract</p>	<div> <math>5 + 3 = 8</math> </div>

Subtraction	
<b>Key Vocabulary:</b> take (away), leave, how many are left/left over?, how many have gone?, one less, two less..., how many fewer is... than...?, difference between	
Method	Example
Using a range of practical resources and real-life contexts, pupils develop their understanding of the concept of subtraction as taking away through counting activities.  Concrete	
If below 10, they count back using their fingers. Using the bigger number hold up that many fingers (e.g. 5) then put down two fingers to 'take away' 2. Count the number of fingers still up to find their answer.  Concrete	 $5 - 2 = 3$
Using pictures and drawing a line through pictures to take away.  Pictorial	
Using a number track.  Pictorial and Abstract (writing the number sentence)	 $6 - 2 = 4$
Use of Numicon to support subtraction.  Concrete	
Use of a Tens Frame, using frame and practical counters.  Concrete	<div style="display: flex; justify-content: space-around;"> <div> <p>First</p>  </div> <div> <p>Then</p>  </div> </div> $5 - 4 = 1$
Subtracting Tens and Units using dienes and column subtraction.  Concrete	
Use of the addition sign in a number sentence.  Abstract	$15 - 5 = 10$
Using column subtraction.  Abstract	

Multiplication	
Key Vocabulary: multiply, times, groups of, equal groups of, multiple of, multiplied by, inverse	
Method	Example
<p>Repeated addition: Using practical resources children will count groups of the same number of objects and add them together.</p> <p>Concrete</p>	 $2 + 2 + 2 + 2 = 8$
<p>Repeated addition: Using pictorial representations to show equal groups, adding them together.</p> <p>Pictorial</p>	 $3 + 3 + 3 + 3 = 12$ $3 \times 4 = 12$
<p>Counting in 2's, 5's and 10's.</p> <p>Concrete Pictorial</p>	 $2, 4, 6, 8, 10, 12, 14, 16, 18, 20$ $2 \times 10 = 20$
<p>Use of arrays.</p> <p>Can be concrete (using practical objects to create an array) or pictorial</p>	 $5 \times 3 = 15$
<p>Number sentences</p> <p>Abstract</p>	$3 + 3 + 3 = 9$ $3 \times 3 = 9$
<p>Mental Maths: Timetables – 2's, 5's and 10's.</p>	

Division	
Key Vocabulary: share, share equally, groups, divide	
Method	Example
<p>Sharing a range of practical objects where each set has an equal amount.</p> <p>Concrete</p>	
<p>Using pictorial representations to demonstrate sharing.</p> <p>Pictorial</p>	 $4 \div 2 = 2$
<p>Represent division as repeated subtraction using a number line or counting beads.</p> <p>Use of practical objects to support learning initially with pre-made number lines then use of blank number lines.</p> <p>Pictorial</p>	 $15 \div 5 = 3$
<p>Number sentence and divide sign</p> <p>Abstract</p>	$15 \div 3 = 5$