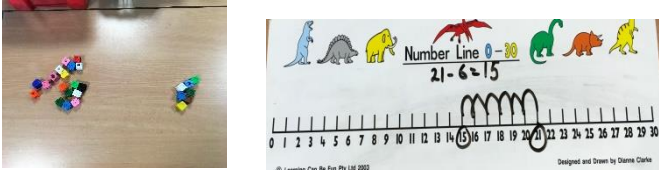


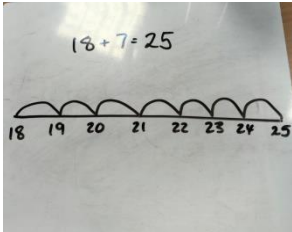
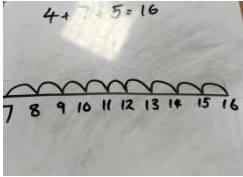

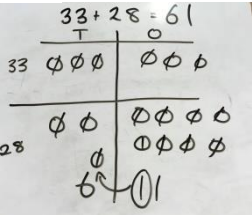
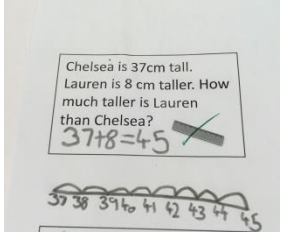
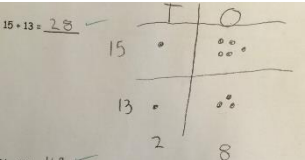


Concrete	Pictorial	Abstract															
<p>Addition</p> <p>Adding a single digit number to a two digit number</p> <p>Use counters and add the 2 groups together. Use a number line and count on.</p>  <p>Adding three single digits</p> <p>Select each value in numicon and count the holes.</p>  <p>Adding two digit numbers</p> <p>Use deans to support place value/partitioning</p> <p>TO + TO using base 10. Continue to develop understanding of partitioning and place value and use this to support addition. Begin with no exchanging. $36 + 25$</p> <table border="1" data-bbox="107 1185 434 1457"> <thead> <tr> <th></th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>+</td> <td></td> <td></td> </tr> <tr> <td>+</td> <td></td> <td></td> </tr> <tr> <td>=</td> <td></td> <td></td> </tr> </tbody> </table> 		Tens	Ones	+			+			=			<p>Draw a number line. Start on the biggest number, draw your jumps and fill in the numbers.</p>  <p>Draw a number line. Start on the biggest number and draw your jumps for the next two values. Fill in the numbers.</p>  <p>Draw a bar model to represent what the calculation or word problem is asking them to do.</p>  <p>Draw tens and ones table.</p> 	<p>Write the calculation and show workings out – number line method:</p>  <p>Write the calculation.</p> $7 + 5 + 4$ <p>Looking for ways to make 10</p> $36 + 25 =$ <table style="margin-left: 100px;"> <tr> <td>30 + 20 = 50</td> </tr> <tr> <td>5 + 5 = 10</td> </tr> <tr> <td>50 + 10 + 1 = 61</td> </tr> </table> <p>Formal method:</p> $\begin{array}{r} 36 \\ +25 \\ \hline 61 \\ \hline 1 \end{array}$ 	30 + 20 = 50	5 + 5 = 10	50 + 10 + 1 = 61
	Tens	Ones															
+																	
+																	
=																	
30 + 20 = 50																	
5 + 5 = 10																	
50 + 10 + 1 = 61																	

Subtraction

Subtracting one digit from a two digit number

Count back using a number line.



Use base 10.



Use numicon to find the difference.

Subtracting two digits

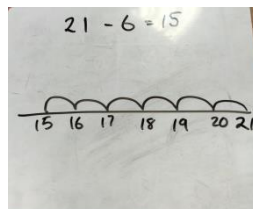
Column method (using base 10 and having to exchange)

45 - 26

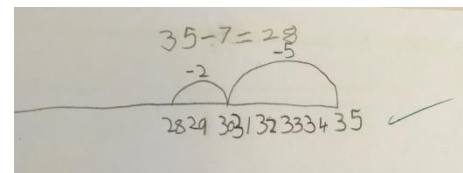


- 1) Start by partitioning 45
- 2) Exchange one ten for ten more ones
- 3) Subtract the ones, then the tens.

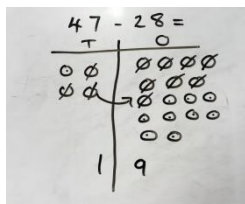
Draw your own number line, jump back and fill in your numbers.



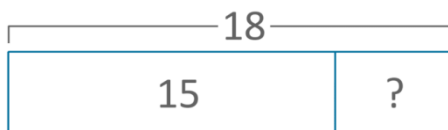
Write the calculation and draw your number line. Jump back to your nearest ten and carry on.



Draw a tens and ones table to represent the calculation.

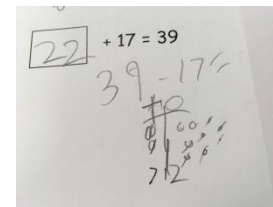


Draw a bar model to represent the calculation or word problem.



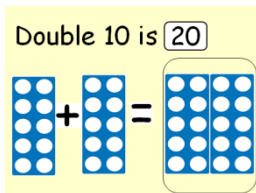
Use the inverse to work out an addition or subtraction calculation.

Knowing that $22 + 17 = 39$ is the same as $39 - 17 = 22$.



Multiplication

Doubling using numicon.



Repeated addition or grouping.

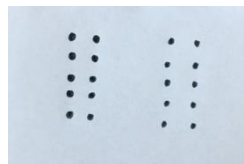
Repeated grouping/repeated addition
(does not have to be restricted to cubes)
 3×4 or 3 lots of 4



Arrays.



Draw the practical numicon in a picture.



Use of a bar model for a more structured method



$$10 + 10 = 20 \quad \text{or} \quad 10 \times 2 = 20$$

$$3 \times 4 = 12 \quad \text{is the same as} \quad 4 \times 3 = 12$$

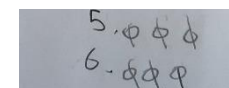
Children to be able to use an array to write a range of calculations e.g.

$$2 \times 5 = 10$$

$$5 \times 2 = 10$$

$$2 + 2 + 2 + 2 + 2 = 10$$

$$5 + 5 = 10$$

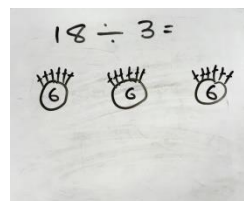


Division

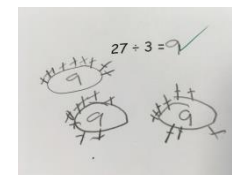
Division as grouping



Draw arrays.



Write the calculation.



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Notes: Include photographs of materials / drawings / books. Include diagrams and explanations.