

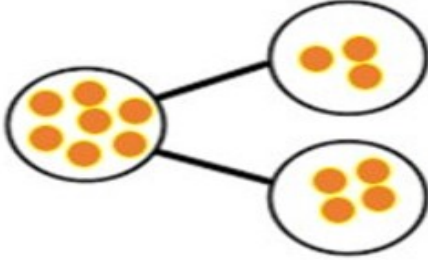
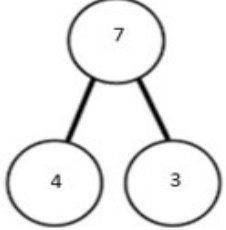

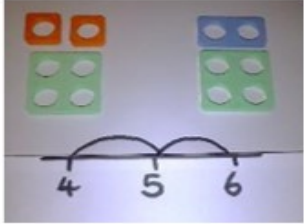
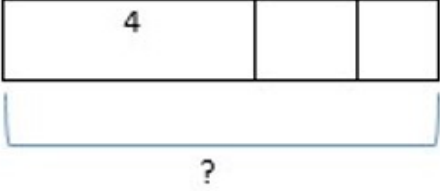
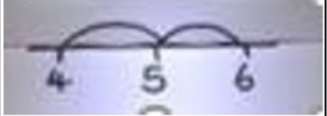
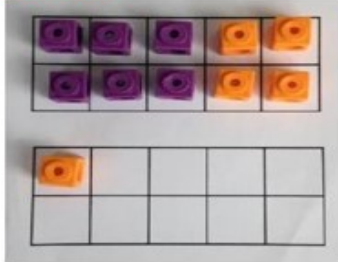

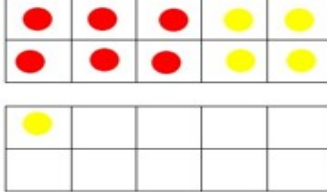


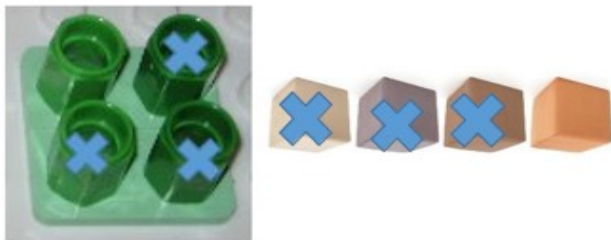

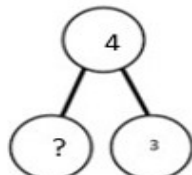
Addition

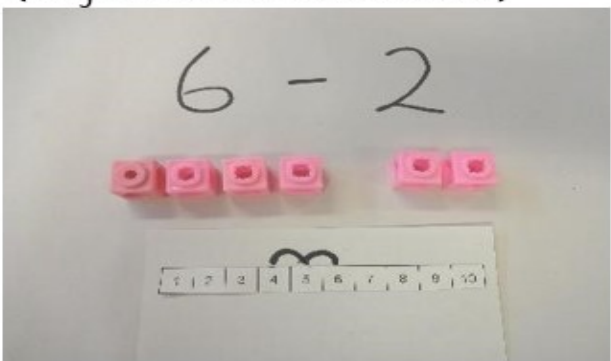
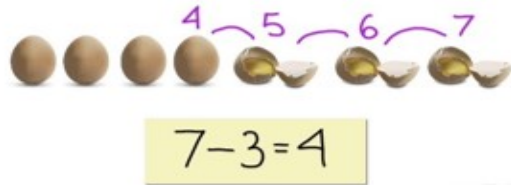
Key language which should be used: sum, total, parts and wholes, plus, add, altogether, more than, 'is equal to' 'is the same as'

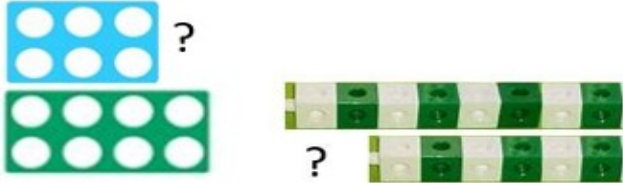



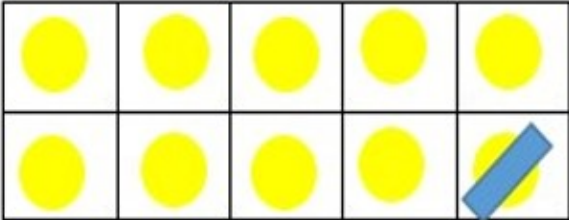
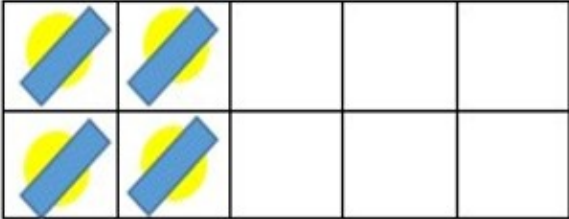
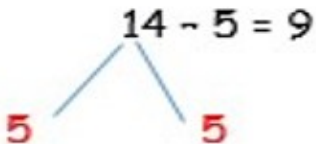
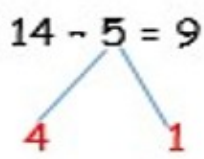
	Concept	Concrete	Pictorial	Abstract
YEAR 1	Combining two parts to make a whole	<p>(use other resources too e.g. eggs, shells, teddy bears etc)</p>  		<p>$4 + 3 = 7$ (four is a part, 3 is a part and the whole is seven)</p> 
YEAR 1	Counting on using number lines	<p>by using cubes or numicon</p>  	<p>A bar model which encourages the children to count on</p> 	<p>The abstract number line:</p> <p>What is 2 more than 4? What is the sum of 4 and 4? What's the total of 4 and 2? $4 + 2$</p> 
YEAR 1	Regrouping to make 10	<p>by using ten frames and counters/cubes or using numicon: $6 + 5$</p>  	<p>Children to draw the ten frame and counters/cubes</p> 	<p>Children to develop an understanding of equality</p> <p>e.g. $6 + \square = 11$ and $6 + 5 = 5 + \square$ $6 + 5 = \square + 4$</p>

Subtraction

Key language which should be used: take away, less than, the difference, subtract, minus, fewer, decrease, '7 take away 3, the difference is four'



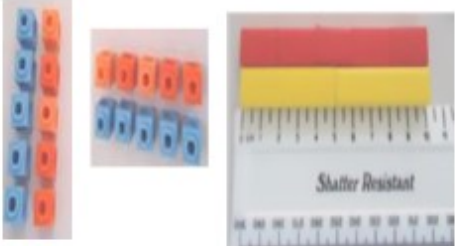
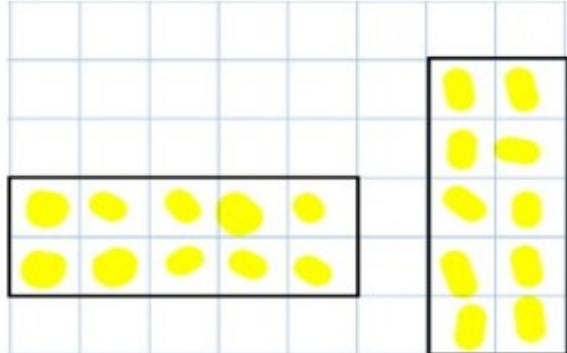
	Concept	Concrete	Pictorial	Abstract				
YEAR 1	Physically taking away and removing objects from a whole	<p>(use various objects too) rather than crossing out- children will physically remove the objects $4 - 3 = 1$</p> 	<p>Children to draw the concrete resources they are using and cross out.</p> 	<p>$4 - 3 =$</p> <p><input type="text"/> = $4 - 3$</p> <table border="1" data-bbox="1756 549 2069 612"><tr><td colspan="2">4</td></tr><tr><td>3</td><td>?</td></tr></table> 	4		3	?
4								
3	?							

YEAR 1	Counting back	<p>(using number lines or number tracks)</p> 	<p>Children to represent what they see pictorially.</p> 	
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YEAR 1	Finding the difference	<p>(using cubes, <u>numicon</u> or other objects can also be used)</p> 	<p>Children to draw the cubes/other concrete objects which they have used</p> 	<p>Find the difference between 8 and 5.</p> <p>8 – 5, the difference is <u>3</u>.</p> <p>Children to also explore why $9 - 6 = 8 - 5$ (the difference, of each digit, has changed by 1 so the difference is the same)</p>
YEAR 1	Making 10 (using <u>numicon</u> or ten frames)	<p>14 – 5</p>  <p>Children could also do this by subtracting a 5 from the 10.</p> 	<p>Children to present the ten frame pictorially</p>  	<p>14 – 5 = 9 You also want children to see related facts e.g. $15 - 9 = 6$</p> <p>Children to represent how they have solved it e.g.</p> <div style="text-align: center;"> $14 - 5 = 9$  </div> <div style="text-align: center;"> $14 - 5 = 9$  </div>

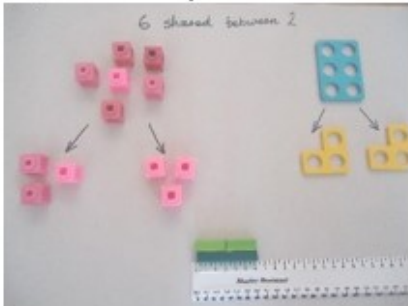
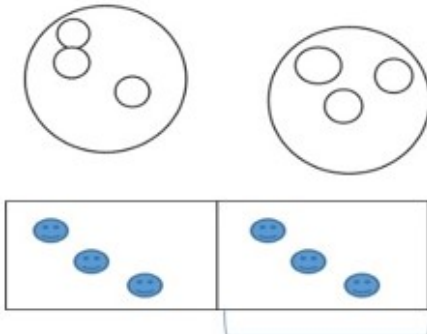
Multiplication

Key language which should be used: double times, multiplied by, the product of, groups of, lots of, 'is equal to' 'is the same as'

	Concept	Concrete	Pictorial	Abstract
YEAR 1	Repeated grouping/repeated addition	<p>(does not have to be restricted to cubes) 3 x 4 or 3 lots of 4</p> 	<p>Children to represent the practical resources in a picture e.g.</p> <p>XX XX XX XX XX XX</p> <p>Use of a bar model for a more structured method</p> 	<p>3 x 4</p> <p>4 + 4 + 4</p>
YEAR 1	Arrays	<p>Use to illustrate commutativity (counters and other objects can also be used) 2 x 5 = 5 x 2</p> 	<p>Children to draw the arrays</p> 	<p>Children to be able to use an array to write a range of calculations e.g.</p> <p>2 x 5 = 10 5 x 2 = 10 2 + 2 + 2 + 2 + 2 = 10 5 + 5 = 10</p>

Division

Key language which should be used: share, group, divide, divided by, half, 'is equal to' 'is the same as'

	Concept	Concrete	Pictorial	Abstract		
YEAR 1	Sorting objects into groups	<p>Other concrete objects can also be used e.g. children and hoops, teddy bears, cakes and plates.</p> 	<p>This can also be done in a bar so all 4 operations have a similar structure:</p> 	<p>$6 \div 2 = 3$</p> <p>What's the calculation?</p> <table><tr><td>3</td><td>3</td></tr></table>	3	3
3	3					