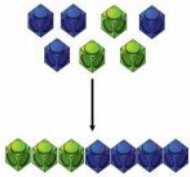
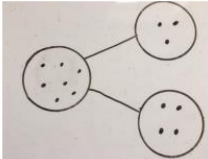
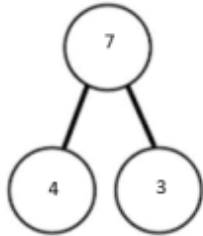
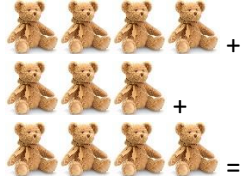
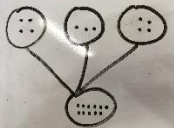
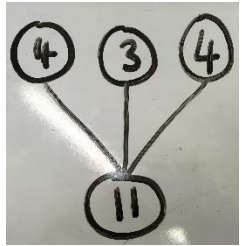
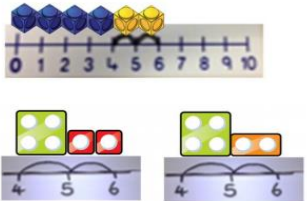
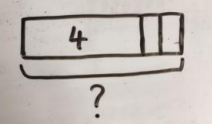
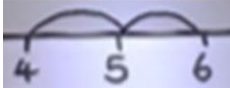
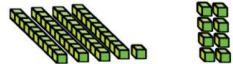
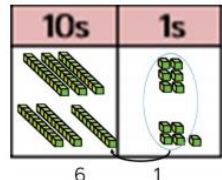
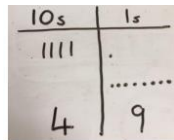
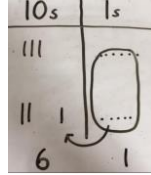
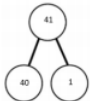
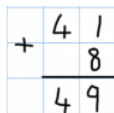

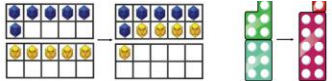
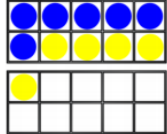
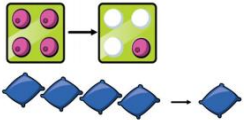
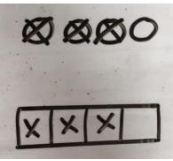
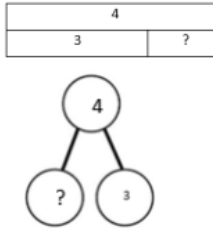

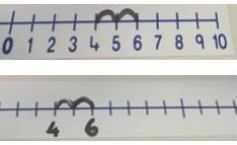

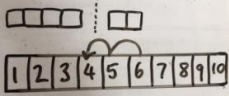

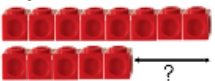
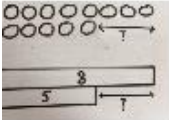
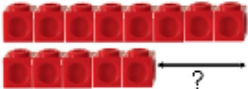





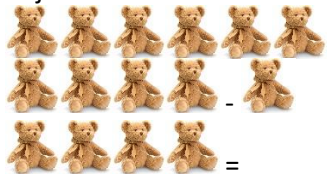
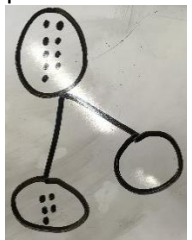

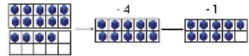
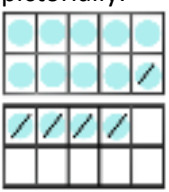
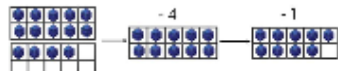
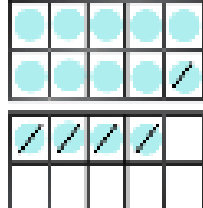
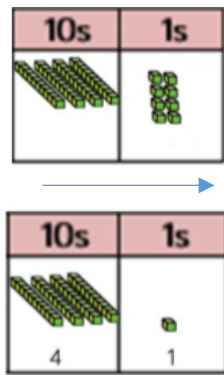
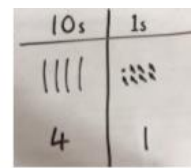
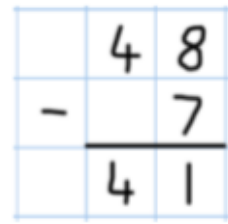
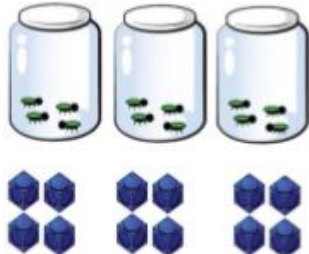
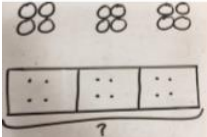

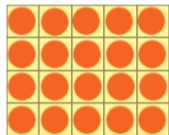

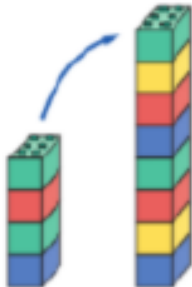

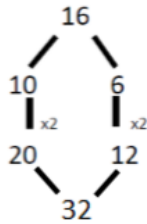




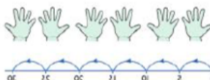

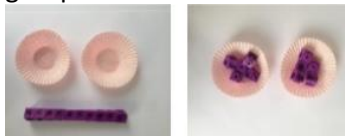




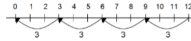




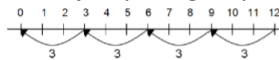


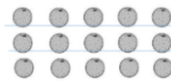
	EYFS	Year 1	Concrete	Pictorial	Abstract	Year 2	Concrete	Pictorial	Abstract
Addition		Combining two parts to make a whole: part whole model.	Combining 2 parts to make a whole (using any resource: cars, teddies) 	Children to represent cubes using dots/crosses. They could put each part into a part whole model. 	$4 + 3 = 7$ 4 is a part, 3 is a part, 7 is the whole. 	Adding three single digits.	Combining 3 parts to make a whole 	Put each part into a part whole model. 	$4 + 3 + 4 = 11$ 4 is a part, 3 is a part, 4 is a part, 11 is the whole. 
		Starting at the bigger number and counting on using cubes.	Counting on using number lines, cubes or numicon. 	A bar model encouraging children to count on rather than counting all. 	Abstract number line What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2? $4 + 2$ 		Partitioning TO's $41 + 8$  $36 + 25$ 	Children to represent base 10 in place value chart.  	$41 + 8$  $1 + 8 = 9$ $40 + 9 = 49$  $36 + 25$  $30 + 20 = 50$ $5 + 5 = 10$ $50 + 10 + 1 = 61$ Formal method: $\begin{array}{r} 36 \\ +25 \\ \hline 61 \\ 1 \end{array}$
		Regrouping to make 10 using ten frame.	Using 10's frame, counters, cubes or numicom $6 + 5$ 	Children to draw 10's frame, counters/cubes 	Developing understanding of equality $6 + \square = 11$ $6 + 5 = 5 + \square$ $6 + 5 = \square + 4$			Use of bar model.	

Subtraction	Taking away ones.	<p>Physically taking away and removing objects from the whole.</p> $4 - 3 = 1$ 	<p>Children can draw concrete resources they are using and cross them out. Use of bar model to represent this.</p> 	$4 - 3 =$ 	Counting back.	<p>Children start with 6 and take away 2.</p> $6 - 2 = 4$ 	Representation of what children see pictorially.	<p>Children to represent this on a number line drawing the jumps. Encourage children to use an empty number line.</p> 
	Counting back.	<p>Children start with 6 and take away 2.</p> $6 - 2 = 4$ 	<p>Representation of what children see pictorially.</p> 	<p>Children to represent this on a number line drawing the jumps. Encourage children to use an empty number line.</p> 	Find the difference.	<p>Calculating the difference between 8 and 5 (using numicon, cubes, other objects).</p> 	<p>Children to draw the objects used/make a bar model to illustrate what calculation is needed.</p> 	<p>Finding the difference between 8 and 5.</p> $8 - 5 = \square$ <p>Children to explore why 9-6, 8-5, 7-4 all have a difference of 3.</p>
	Find the difference.	<p>Calculating the difference between 8 and 5 (using numicon, cubes, other objects).</p> 	<p>Children to draw the objects used/make a bar model to illustrate what calculation is needed.</p>	<p>Finding the difference between 8 and 5.</p> $8 - 5 = \square$ <p>Children to explore why</p>	Part whole model.	<p>Take away a part from a whole using a variety of objects.</p> 	<p>Represent the whole and take away the</p>	<p>Use digits to represent the whole and the part.</p> $9 - 5 =$ 

			9-6, 8-5, 7-4 all have a difference of 3.			part. 	Use of bar model.
Part whole model.	Take away a part from a whole using a variety of objects. 	Represent the whole and take away the part.  Use of bar model.	Use digits to represent the whole and the part. $9 - 5 =$ 	Make 10 using ten frame.	$14 - 5$ 	Children to represent the 10's frame pictorially.  Use of bar model.	Making 10 by partitioning the subtraction. $14 - 5 = 9$ $14 - 4 = 10$ $10 - 1 = 9$
Make 10 using the ten frame.	$14 - 5$ 	Children to represent the 10's frame pictorially.  Use of bar model.	Making 10 by partitioning the subtraction. $14 - 5 = 9$ $14 - 4 = 10$ $10 - 1 = 9$	Column method using base 10.	$48 - 7$ 	Children to represent base 10 pictorially 	Column method or children could count back 

Multiplication	Recognising and making equal groups.	<p>There are 3 equal groups with 4 in each group</p> 	<p>Children to represent the practical using a bar model</p> 	<p>$3 \times 4 = 12$ $4 + 4 + 4 = 12$</p>	Arrays- showing commutative multiplication	<p>Create arrays using counters/cubes</p> 	<p>Use arrays in different rotations</p>  <p>4×5 or 5×4</p>	<p>Use arrays to write multiplication sentences</p>  <p>$5 + 5 + 5 = 15$ $3 + 3 + 3 + 3 + 3 = 15$</p>
	Doubling	<p>Use practical activities to show how to double a number</p>  <p>Double 4 = 8 $4 \times 2 = 8$</p>	<p>Double 4 is 8</p> 	 <p>Partition a number and the double each part before recombining it back together</p>			 <p>$2 \times 4 = 8$</p>	<p>$5 \times 3 = 15$ $3 \times 5 = 15$</p>
	Counting in multiples	<p>Encourage children not to count in 1's</p>  <p>Use cubes, Numicon and other objects in the classroom</p> 	<p>Use number lines to support counting</p> 	<p>Write sentences with multiples of a number</p> <p>2, 4, 6, 8</p> <p>5, 10, 15, 20</p>		 <p>$4 \times 2 = 8$</p>		

				Count aloud in multiples				
Division	Sharing objects into groups	<p>I have 10 cubes. Can you share the equally into 2 groups?</p>  	<p>Children use pictures</p>   <p>8 divided by 2 = 4</p>	<p>Share 9 buns between 3 people</p> $9 \div 3 = 3$	<p>Division as grouping</p>	<p>Divide quantities into equal groups</p>  <p>How many groups of 2 are in 10? Share 10 in groups of 2 is 5 groups</p> $10 \div 2 = 5$	<p>Use a number line to show jumps in groups</p>  <p>Think of the bar as the whole. Split it into the number of groups you are dividing by and work out how many would be in each group.</p>  <p> $20 \div 5 = ?$ $5 \times ? = 20$ </p>	<p>$28 \div 7 = 4$</p> <p>Divide 28 into 7 groups. How many are in each group?</p> <p>7 14 21 28</p> <p>$28 \div 7 = 4$</p> <p>2 4 6 8 10</p> <p>$10 \div 2 = 5$</p>

	<p>Division as grouping</p> <p>E.g. I have 12 sweets and put them in groups of 3, how many groups?</p>	<p>Divide quantities into equal groups</p>  <p>How many groups of 2 are in 10? Share 10 in groups of 2 is 5 groups $10 \div 2 = 5$</p>	<p>Use a number line to show jumps in groups</p>  <p>Think of the bar as the whole. Split it into the number of groups you are dividing by and work out how many would be in each group.</p>  <p>$20 \div 5 = ?$ $5 \times ? = 20$</p>	<p>$28 \div 7 = 4$</p> <p>Divide 28 into 7 groups. How many are in each group?</p> <p>7 14 21 28 $28 \div 7 = 4$</p> <p>2 4 6 8 10 $10 \div 2 = 5$</p>	<p>Division within arrays-linking to multiplication</p>  <p>$15 \div 3 = 5$ $5 \times 3 = 15$ $15 \div 5 = 3$ $3 \times 5 = 15$</p>	<p>Use and draw array to split into groups</p>  <p>15 divided by 3 = 5</p>	<p>Find the inverse of multiplication and division</p> <p>$7 \times 4 = 28$ $4 \times 7 = 28$ $28 \div 7 = 4$ $28 \div 4 = 7$</p>
--	--	--	--	---	--	---	---