

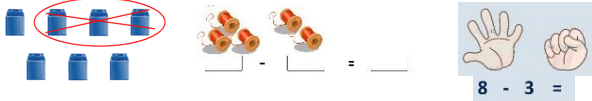
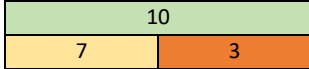
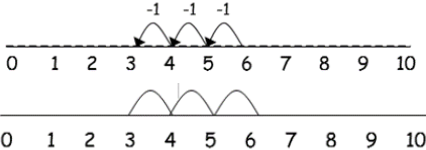

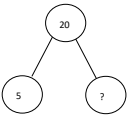
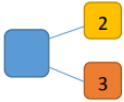
Year 1

Addition

Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding	
1	<ul style="list-style-type: none"> • Represent and use number bonds and related addition facts within 20 (rapid recall). • Children to understand that addition can be done in any order (commutative). • Rapidly recall doubles to 10. 	<ul style="list-style-type: none"> • Children are encouraged to count on using practical resources e.g. using fingers, cubes, Numicon to solve addition sentences including missing numbers. Children to use a bar model; first, then, now stories and part whole models. Children to record their number sentence. • Children to draw pictorially to solve addition problems. • Children to record their number sentence. • Children to use base 10 apparatus (e.g. egg boxes) to solve number facts up to 20 including bridging through 10 e.g. $9 + 6 = 9 + 1 + 5$ • Children to use a number line to count on in ones. They also use number lines to bridge through 10 in larger jumps applying knowledge of number facts • Children to add by partitioning and using related number facts within 10 to add within 20 e.g. $2 + 4 = 6$ so $12 + 4 = 16$ • Children to solve number sentences involving missing numbers and where the number sentence starts with the answer e.g. $15 = 10 + 5$ • Children to understand that addition is the inverse of subtraction. 	<p>$3 + 1 = 4$</p> <p>$8 + 5 = 13$</p> <p>$5 + \square = 11$ $8 + \square = 12$</p> <p>Use cubes to add two numbers together as a group or in a bar.</p> <p>Use pictures to add two numbers together as a group or in a bar.</p> <p>Use the part-part-whole diagram as shown above to move into the abstract.</p> <p>$2 + 3 = 5$ $3 + 2 = 5$ $5 = 3 + 2$ $5 = 2 + 3$</p> <p>$5 - 3 = 2$ $5 - 2 = 3$ $3 = 5 - 2$ $2 = 5 - 3$</p>

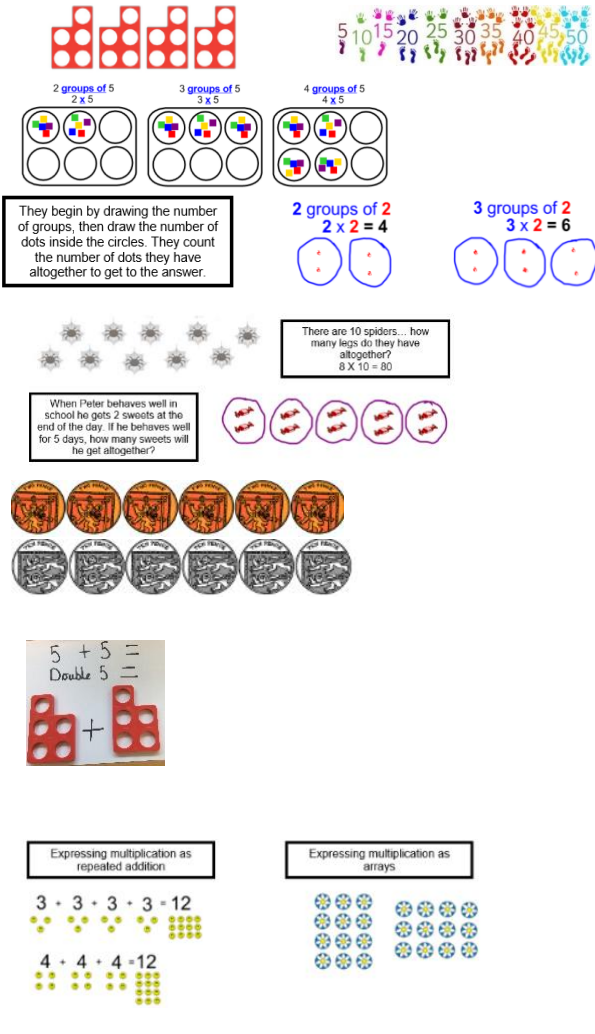


Subtraction

Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding
1	<ul style="list-style-type: none"> • Represent and use number bonds and related subtraction facts within 20 (rapid recall). • Understand that subtraction must have the largest number first. • Rapidly recall halves to 10. 	<ul style="list-style-type: none"> • Children are encouraged to count back using practical resources e.g. using fingers, cubes, Numicon to solve subtraction sentences including missing number. • Children to use a bar model; first, then, now stories and part whole models. Children to record their number sentence. • Children to draw pictorially to solve subtraction problems. • Children to subtract using a number line starting with the largest number and counting back in ones (subtracting a one digit number) • The number line should also be used to show that $6 - 3$ means the 'difference between 6 and 3' or 'the difference between 3 and 6' and how many jumps they are apart. • Children to use base 10 apparatus e.g. egg boxes to bridge through 10. Children to also show on a number line. E.g. $15 - 6 = 15 - 5 - 1$ • Children to use their knowledge of place value to partition a number to subtract 1 digit from 2 digit. • Children to use knowledge of subtraction facts within 10 to subtract within 20. • Children to understand that subtraction is the inverse of addition. <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p>$8 - 3 =$</p>  <p>$10 - 7 = 3$</p> <p>$6 - 3 = 3$</p>   <p>$15 - 6 = 9$</p>  <p>$20 - ? = 5$</p> <p>$20 - \square = 10$</p> </div> <div style="width: 45%;"> <p>$16 - 4 =$ $6 - 4 = 2$ so $16 - 4 = 12$</p> <p>$2 + 3 = 5$ $3 + 2 = 5$ $5 = 3 + 2$ $5 = 2 + 3$</p>  <p>$5 - 3 = 2$ $5 - 2 = 3$ $3 = 5 - 2$ $2 = 5 - 3$</p> <p>Use the part-part-whole diagram as shown above to move into the abstract.</p> </div> </div>

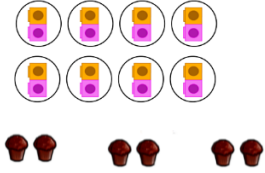
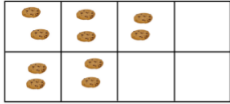

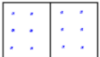


Multiplication

Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding
1	<ul style="list-style-type: none"> Children count in steps of 2, 5 and 10 and begin to identify the patterns. 	<ul style="list-style-type: none"> Children to use Numicon and other appropriate resources to count in 2s, 5s and 10s. Children to use laminated sheets with circles (groups) on them. Children group objects using the correct mathematical vocabulary. Children to begin to use jottings of simple multiplication with the associated vocabulary. Children are exposed to the different ways in which multiplication can be expressed using the concrete materials and linking it to real life situations. Children to use Numicon, cubes, beads and any other appropriate apparatus. Children to use money to calculate the total value (sets of 2ps, 5ps or 10p coins). Children to be able to double numbers and recognise this is the same as multiplying by 2. Children begin to commit multiples of 2, 5, 10 to memory and use these facts to solve problems. Children will draw their own arrays using dots to represent objects. Children <u>begin</u> to understand that repeated addition can also be expressed as multiplication using concrete materials. 



Division

Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding	
1	<ul style="list-style-type: none"> Children count in steps of 2, 5 and 10 and begin to identify the patterns. 	<ul style="list-style-type: none"> Children to use Numicon, cubes and any other appropriate apparatus to group within 20. Children use grouping to solve problems involving division. With the help of laminated sheets, children place the given number of objects into groups using the correct mathematical vocabulary. Grouping with the use of jottings. Children first draw the total number of items using dots, then put circles around the given number of dots. They count the number of groups to obtain an answer. Children halve numbers and recognise the link to dividing by 2. 	<p>Groups of 2:</p>  <p>I have 10 cookies. Put them into groups of 2. How many groups have we got altogether?</p>  <p>I have 12 multilink cubes. If I put them into groups of 2, how many groups have I got?</p> <p>12 into groups of 2 $12 \div 2 = 6$</p>  <p>Groups of 6:</p>  <p>Half of 6 is 3 $\frac{1}{2}$ of 6 = 3</p> 