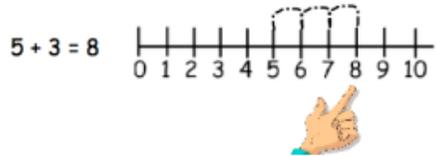
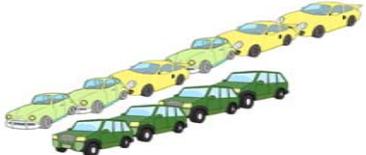
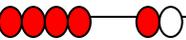
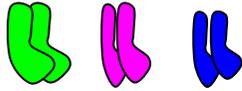
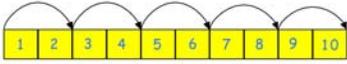
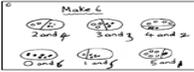
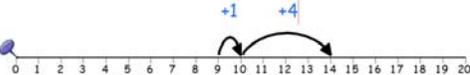
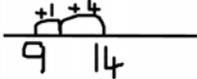
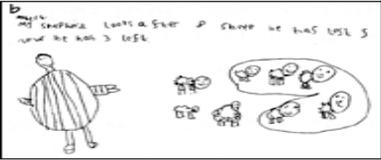
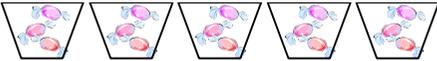
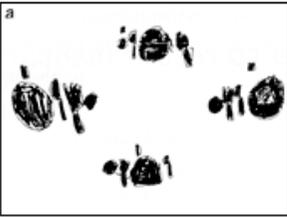
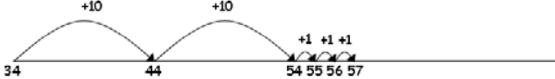
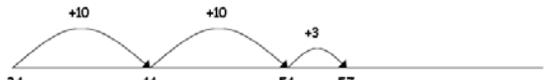
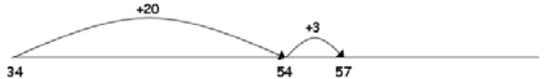
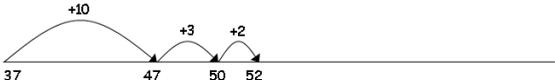
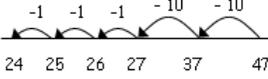
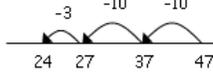
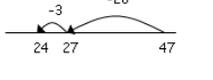
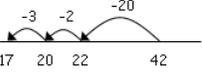
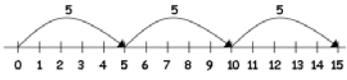
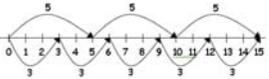
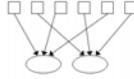
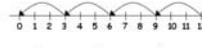


	Addition	Subtraction	Multiplication	Division
Rec	<p>Begin to relate addition to combining two groups of objects.</p> <p>Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, words or symbols.</p>  <p>Bead strings or bead bars can be used to illustrate addition</p>  <p style="text-align: right;">$8 + 2 = 10$</p> <p>They use numberlines and practical resources such as Numicon to support calculation and teachers <i>demonstrate</i> the use of the numberline.</p> <p>Higher Ability/ Gifted and Talented children progress to using a number line. They jump forwards along the number line using finger.</p>  <p>$5 + 3 = 8$</p> <p><u>ITP's</u></p> <p>Counting</p>	<p>Begin to relate subtraction to 'taking away'</p> <p>Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, words or symbols of subtraction. Use of games, songs and practical activities to encourage use of vocabulary.</p> <p>We have got 6 shells. We put 2 into the bucket and there are 4 left.</p>  <p>There are 6 shells. Take 2 away. There are 4 left.</p>  <p>Making comparisons I have got 6 cars, you have got 4 cars. I have got 2 more cars than you.</p>  <p>Bead strings or bead bars can also be used to illustrate subtraction including bridging through ten by counting back 3 then counting back 2.</p>  <p style="text-align: right;">$6 - 2 = 4$</p> <p>They use numberlines and practical resources such as Numicon to support calculation. Teachers <i>demonstrate</i> the use of the numberline.</p> <p>Higher Ability/ Gifted and Talented Progression:</p>  <p>$8 - 3 = 5$</p> <p>Counting backwards along a number line using a finger. ITPs Number Facts Counting</p>	<p>Children will experience equal groups of objects.</p> <p>I have three pairs of socks in the bag. How many socks are there?</p>  <p>They will count in 2s and 10s and begin to count in 5s. Hopping in 2s along a number track</p>  <p>I jump 2, jump 2, jump 2, jump 2, jump 2. I land on 10.</p> <p>Counting fingers in 5s.</p>  <p>5, 10, 15, 20. 20 fingers altogether.</p> <p>Counting beads in 10s.</p>  <p>10, 20, 30, 40, 50, 60, 70, 80, 90, 100</p> <p>They will work on practical problem solving activities involving equal sets or groups.</p> 	<p>Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s.</p>  <p>Use related vocabulary.</p> <p>Activities might include:</p> <ul style="list-style-type: none"> • Sharing of milk at break time • Sharing sweets on a child's birthday • Sharing activities in the home corner • Count in tens/twos • Separate a given number of objects into two groups (addition and subtraction objective in reception being preliminary to multiplication and division)

	Addition	Subtraction	Multiplication	Division
Y1	<p>Add one and two digit numbers to 20, including zero.</p> <p>Using pictures</p>  <p style="text-align: center;">$8 + 5 = 13$</p> <p>Bead strings or bead bars can be used to illustrate addition including bridging through ten by counting on 2 then counting on 3.</p>  <p>They use numberlines and practical resources to support calculation and teachers <i>demonstrate</i> the use of the numberline.</p> <p>Children then begin to use numbered lines to support their own calculations using a numbered line to count on in ones.</p> <p style="text-align: center;">$5 + 9 = 14$</p> <p>Put the larger number first</p>  <p>On an empty number line</p>  <p>Children need to understand the concept of equality before using the '=' sign. Calculations should be written either side of the equality sign so that the sign is not just interpreted as 'the answer'.</p> <p> $2 = 1 + 1$ $2 + 3 = 4 + 1$ $3 = 3$ $2 + 2 + 2 = 4 + 2$ </p> <p>Missing numbers need to be placed in all possible places.</p> <p> $3 + 4 = \square$ $\square = 3 + 4$ $3 + \square = 7$ $7 = \square + 4$ $\square + 4 = 7$ $7 = 3 + \square$ $\square + \nabla = 7$ $7 = \square + \nabla$ </p> <p>IITPs Counting Counting on Counting on and back Number Facts Ordering Numbers</p>	<p>Using pictures</p>  <p>Bead strings or bead bars can be used to illustrate subtraction including bridging through ten by counting back 3 then counting back 2.</p>  <p>Children then begin to use numbered lines to support their own calculations - using a numbered line to count back in ones.</p> <p>The numberline 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.</p> <p>- = signs and missing numbers</p> <p> $7 - 3 = \square$ $\square = 7 - 3$ $7 - \square = 4$ $4 = \square - 3$ $\square - 3 = 4$ $4 = 7 - \square$ $\square - \nabla = 4$ $4 = \square - \nabla$ </p> <ul style="list-style-type: none"> Understand subtraction as 'take away'  <ul style="list-style-type: none"> Find a 'difference' by counting up; <p>I have saved 5p. The socks that I want to buy cost 11p. How much more do I need in order to buy the socks?</p>	<p>Children will experience equal groups of objects.</p>  <p>Looking at columns $2 + 2 + 2$ 3 groups of 2</p> <p>Looking at rows $3 + 3$ 2 groups of 3</p> <p>They will count in 2s and 10s and begin to count in 5s.</p> <p>Pictures / marks</p> <p>There are 3 sweets in one bag. How many sweets are there in 5 bags?</p>  <p>They will work on practical problem solving activities involving equal sets or groups.</p> 	<p>Sharing</p> <p>Sharing requires secure counting skills.</p> <p>Sharing - 6 sweets are shared between 2 people. How many do they have each?</p>  <p>Practical activities involving sharing, distributing cards when playing a game, putting objects onto plates, into cups, hoops etc.</p> <p>Grouping</p> <p>Sorting objects into 2s / 3s / 4s etc How many pairs of socks are there?</p>  <p>There are 12 crocus bulbs. Plant 3 in each pot. How many pots are there? Jo has 12 Lego wheels. How many cars can she make?</p> <p>Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s.</p> 

	Addition	Subtraction	Multiplication	Division

	Addition	Subtraction	Multiplication	Division
<p>Y2</p>	<p>Children will begin to use 'empty number lines' themselves starting with the larger number and counting on.</p> <p>✓ First counting on in tens and ones.</p> <p>$34 + 23 = 57$</p>  <p>✓ Then helping children to become more efficient by adding the units in one jump (by using the known fact $4 + 3 = 7$).</p> <p>$34 + 23 = 57$</p>  <p>✓ Followed by adding the tens in one jump and the units in one jump.</p> <p>$34 + 23 = 57$</p>  <p>✓ Bridging through ten can help children become more efficient.</p> <p>$37 + 15 = 52$</p>  <p>Continue using a range of equations as in Year 1 but with appropriate, larger numbers (up to 100). Use $<$, $>$ to compare and order numbers. Extend to $14 + 5 = 10 + \square$ and $32 + \square + \square = 100$ $35 = 1 + \square + 5$</p> <p>ITPs Counting on Counting on and back Number Facts Ordering numbers</p>	<p>Children will begin to use empty number lines to support calculations.</p> <p>Counting back:</p> <p>✓ First counting back in tens and ones.</p> <p>$47 - 23 = 24$</p>  <p>✓ Then helping children to become more efficient by subtracting the units in one jump (by using the known fact $7 - 3 = 4$).</p> <p>$47 - 23 = 24$</p>  <p>✓ Subtracting the tens in one jump and the units in one jump.</p> <p>$47 - 23 = 24$</p>  <p>✓ Bridging through ten can help children become more efficient.</p> <p>$42 - 25 = 17$</p>  <p>Counting on: The number line should still show 0 so children can cross out the section from 0 to the smallest number. They then associate this method with 'taking away'.</p>	<p>Children will develop their understanding of multiplication and use jottings to support calculation.</p> <p>✓ Repeated addition 3 times 5 is $5 + 5 + 5 = 15$ or 3 lots of 5 or 5×3</p> <p>Repeated addition can be shown easily on a number line:</p> <p>$5 \times 3 = 5 + 5 + 5$</p>  <p>and on a bead string:</p> <p>$5 \times 3 = 5 + 5 + 5$</p>  <p>✓ Commutativity Children should know that 3×5 has the same answer as 5×3. This can also be shown on the number line.</p>  <p>✓ Arrays Children should be able to model a multiplication calculation using an array. This knowledge will support with the development of the grid method.</p>  <p>$3 \times 5 = 15$</p> <p>x = signs and missing numbers</p> <p>$7 \times 2 = \square$ $\square = 2 \times 7$ $7 \times \square = 14$ $14 = \square \times 7$ $\square \times 2 = 14$ $14 = 2 \times \square$ $\square \times \nabla = 14$ $14 = \square \times \nabla$</p> <p>Recall and use multiplication facts from 2, 5 and 10 times tables.</p>	<p>Children will develop their understanding of division and use jottings to support calculation.</p> <p>✓ Sharing equally 6 sweets shared between 2 people, how many do they each get?</p>  <p>✓ Grouping or repeated subtraction There are 6 sweets, how many people can have 2 sweets each?</p>  <p>✓ Repeated subtraction using a number line or bead string/bar. $12 \div 3 = 4$</p>   <p>The bead bar will help children with interpreting division calculations such as $20 \div 5$ as how many 5s make 20?</p> <p>✓ Using symbols to stand for unknown numbers to complete equations using inverse operations</p> <p>$\square \div 2 = 4$ $20 \div \triangle = 4$ $\square \div \triangle = 4$</p>