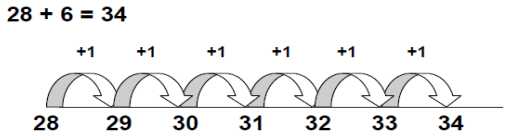
Howbridge Infant School Calculation Policy 2025

Addition

Reception	Year 1	Year 2
Children will -Have a deep understanding of number to 10, including the composition of each number -Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. -Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;	• Given a number, identify one more • Read, write and interpret mathematical statements involving addition (+) and the equals (=) sign • Add one- digit and two-digit numbers to 100, including zero • Solve missing number problems eg 10 + = 16 •Adding ones and ones •Adding tens and ones Children will continue to practise counting on from any number e.g. 'Put five in your head and count on four.'	Add numbers using concrete objects, pictorial representations, and mentally, including: o A two digit number and ones o A two digit number and tens o Two two-digit numbers o Three one-digit numbers *NB Ensure that children are confident with the methods outlined in the previous year's guidance before moving on*.
Teaching methods		
Practical adding using objects  Get 4 cubes and 2 cubes. Count how many cubes there are altogether.	Counting on in ones on a number line up to 100  5 + 4 = 9 'Put your finger on number five. Count on (count forwards) four.'	Empty number line adding ones  to and over 100

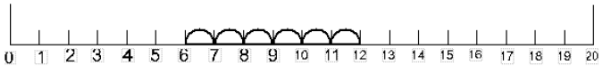
Combining 2 amounts to find a total



'You have four cubes and I have 2 cubes. How many cubes altogether?'

Then progress to a **marked number line:**

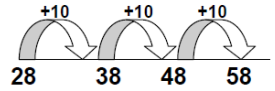
6 + 6 = 12



'Put your finger on number six and count on six.'

Empty number line adding tens

28 + 30 = 58

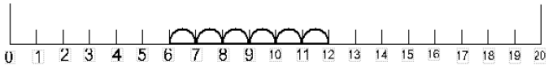


Use in conjunction with a **100 square** to show jumps of tens.

Use divided number lines to add 2 one digit numbers to 20

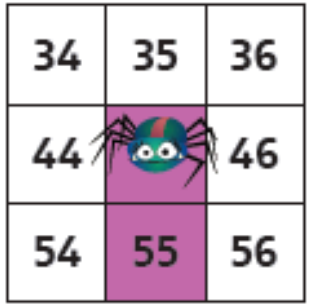
Then progress to a **marked number line:**

6 + 6 = 12



'Put your finger on number six and count on six.'

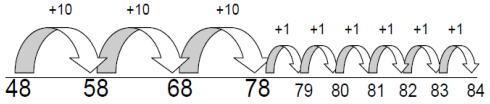
Counting on tens and ones using a 100 square – count down for tens and across for ones.



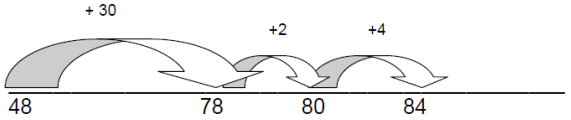
Empty number line adding tens and ones

48 + 36 = 84

'Put the biggest number first (48), and then partition the smaller number (36 = 30 + 6) and count on: 48 + 30 + 6.'

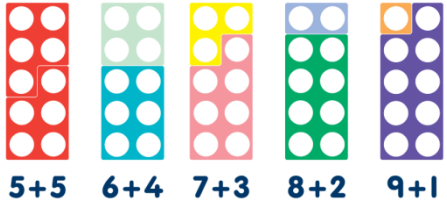


If children are confident, use more efficient jumps…



Use in conjunction with a **100 square** to show jumps of tens and ones/units.

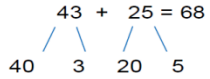
Numicon



Cubes/objects alongside a 100 square or number line. Start from the biggest number and add on cube amounts.

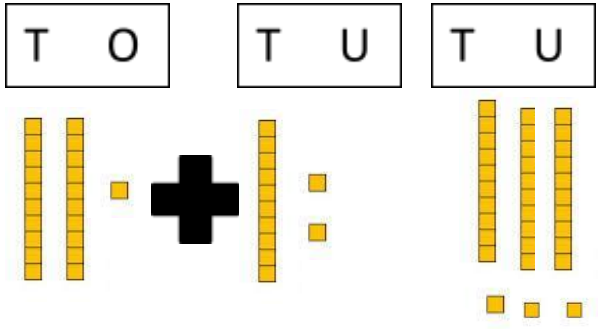
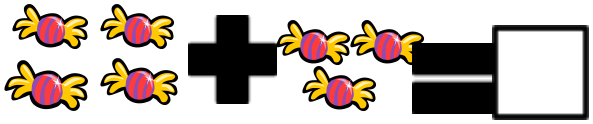


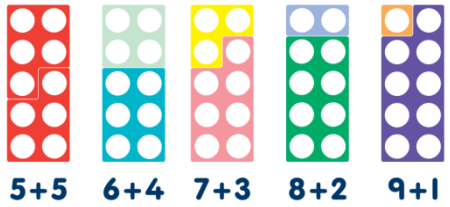
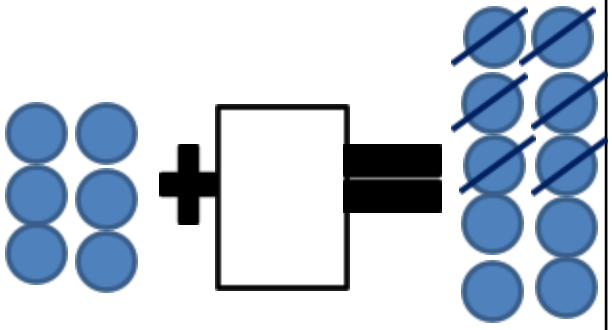
Also use the **partitioning method** to add two two-digit numbers:



40 + 20 = 60
3 + 5 = 8
60 + 8 = 68

'Partition the numbers into tens and ones/units.
Add the tens together and then add the ones/units together.
Recombine to give the answer'.

	Tens and ones rods  	Then move on to calculations that **bridge** the tens: 48 + 36 = 40 + 8 + 30 + 6 40 + 30 = 70 8 + 6 = 14 70 + 14 = 84 48 + 36 = 84 This is an alternative way of recording the partitioning method. Further develop addition with numbers that bridge 100, using a **200 grid** to support.
	Drawing pictures John has 4 sweets. He gets 3 more. How many does he have in total? Draw pictures to support 	**Record number sentences** ……+……= …… ……+……+……= …… ……+…… = ……+……
	Put the biggest number in head and count in ones using fingers  	**Inverse operations** …… - 21 = 23 23 + 21 = ……

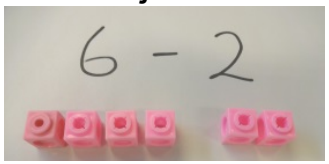
	Numicon  	
	Inverse number sentences Draw total amount of dots and cross out to work out remaining amounts. 6 + …… = 10 	
	Record number sentences	

	……+…….. = ……	
Continue to solve problems in practical contexts, and develop the language of early addition, with appropriate resources *(add, sum, addition, plus, sum, more, increase, total, altogether)*		

Subtraction

EYFS	Year 1	Year 2
Children will - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;	Given a number, identify one less • Read, write and interpret mathematical statements involving subtraction (-) and the equals (=) sign • Subtract one- digit and two-digit numbers within 20, including zero • Solve missing number problems eg 20 - = 15 *NB Ensure that children are confident with the methods outlined in the previous year's guidance before moving on.* Children will continue to practise counting back from a given number.	• Subtract numbers using concrete objects, pictorial representations, and mentally, including: o A two digit number and ones o A two digit number and tens o Two two-digit numbers

Practical subtraction using objects



Children will continue to practise counting back from a given number.

Initially use a **number track** to **count back** for subtraction:

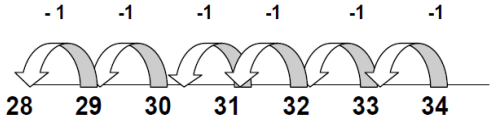


9 – 5 = 4

'Put your finger on number nine. Count back five.'

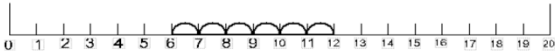
Counting back using an **empty number line** within 100, in ones…

34 - 6 = 28



Then progress to a **marked number line:**

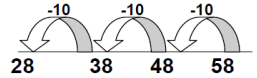
12 - 6 = 6



'Put your finger on number twelve and count back six.'

…and in tens:

58 - 30 = 28

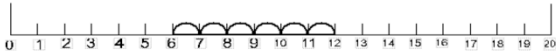


Use in conjunction with a **100 square** to show jumps of tens.

Use divided number lines to subtract 2 numbers to 20

Then progress to a **marked number line:**

12 - 6 = 6



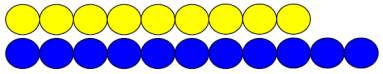
'Put your finger on number twelve and count back six.'

Counting on to find a small difference:

Introduce complementary addition to find differences (only use for **small** differences). The use of models is extremely important here to understand the idea of "difference".

Count up from the smallest number to the largest to **find the difference** using resources, e.g. cubes, beads, number tracks/lines:

11 – 9 = 2

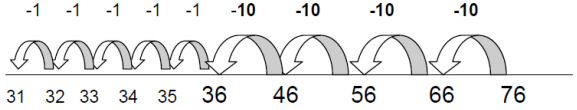


The **difference between** nine and eleven is two.

NB If, at any time, children are making significant errors, return to the previous stage in calculation.

Subtraction, using partitioning, on an empty number line:

76 – 45 = 31



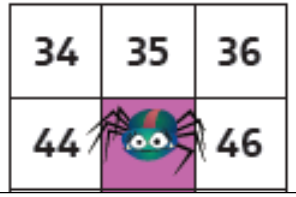
Use in conjunction with a **100 square** to show jumps of tens and ones.

Numicon

Layering pieces to show the remaining numbers once an amount has been subtracted.

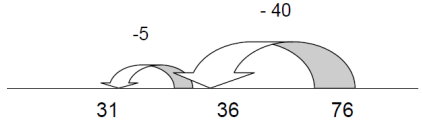


Jumping up tens and back ones



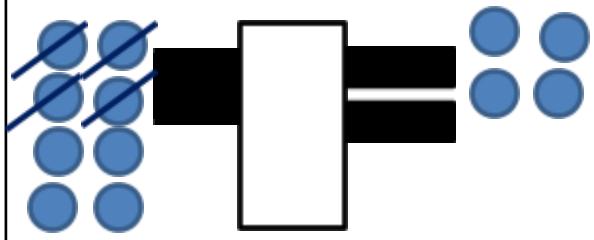
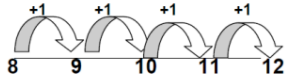
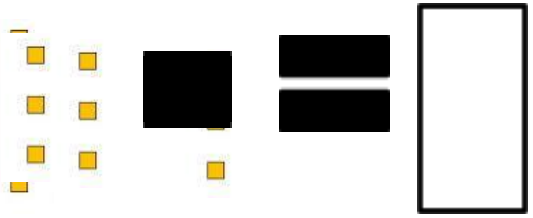
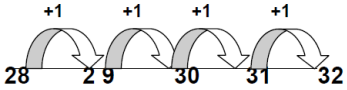
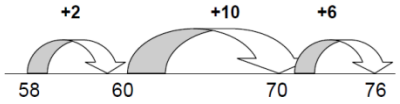
If children are confident, use more efficient jumps:

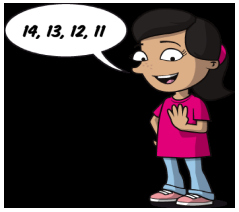
76 – 45 = 31



76 – 40 – 5 = 31

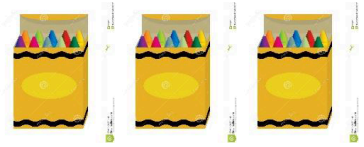
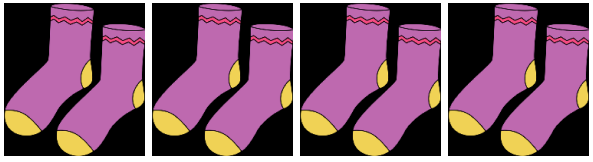
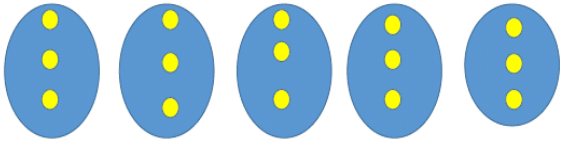
Use in conjunction with a **100 square** to show jumps of tens and ones.

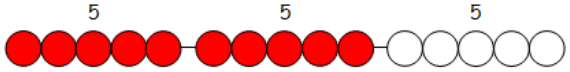
	Work out inverse answers by crossing out dots 	**Counting on to find a small difference** Introduce complementary addition to find differences (only use for **small** differences). The use of models is extremely important here to understand the idea of "difference" (see Y1 guidance). **Count up** from the smallest number to the largest to **find the difference**. **12 - 8 = 4**  'The difference between 8 and 12 is 4.'
	Tens and ones rods 	**32- 28 = 4**  'The difference between 28 and 32 is 4.'
	Using cubes alongside number lines/ 100 squares  	**76 – 58 = 18**  'The difference between 58 and 76 is 18.' Further develop subtraction with numbers that bridge 100, using a **200 grid** to support. **NB** If, at any time, children are making significant errors, return to the previous stage in calculation.

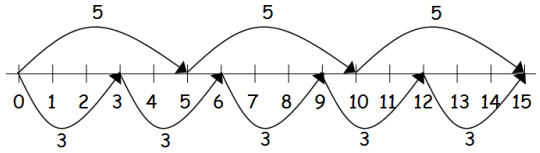
	Put the biggest number in your head and count back  	Inverse operations 31 + …….. = 56 56 – 31 = ……
Continue to solve problems in practical contexts, and develop the language of early subtraction, with appropriate resources *(subtract, subtraction, take, take away, left, minus, leave, difference, fewer than, less than)*		

Multiplication

EYFS	Year 1	Year 2
Children will - Have a deep understanding of number to 10, including the composition of each number; - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts)	**Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher** **Count in multiples of twos, fives and tens (to the 12th multiple)** Children will understand equal groups and share items out in play and problem solving. They will count in 2s, 5s, 10s and later in 3s.	**Recall and use multiplication facts for the 2, 5 and 10 multiplication tables** **Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (×) and equals (=) signs** **solve problems involving multiplication, using materials, arrays, repeated addition, mental methods, and**

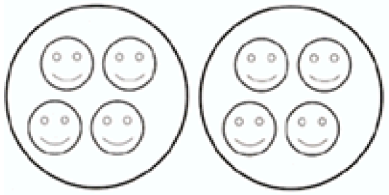
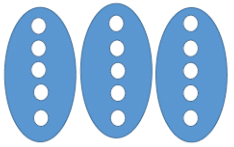
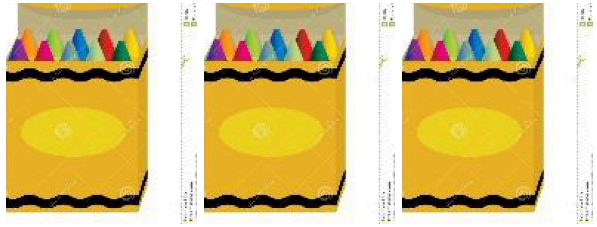
and some number bonds to 10, including double facts. - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.		**multiplication facts, including problems in contexts** **🎬 show that multiplication of two numbers can be done in any order (commutative)** Children will develop their understanding of multiplication and use jottings to support calculations
Children will understand equal groups and share items out in play and problem solving.	Children will count repeated groups of the same size in practical contexts writing sum as repeated addition (x2, x5, x10) 10 + 10 + 10 = 30 	**Combining Groups (repeated addition):** '4 groups of 10 crayons' 'How many crayons altogether?'  '10 + 10 + 10 + 10= 40' '4 groups of 10' ' 4 times 10' '4 x 10 = 40' '10 x 4 = 40'
Three apples for me and three for you. How many apples altogether?' 	They will solve **practical problems** that involve combining groups of 2, 5 or 10. E.g. socks, fingers and cubes  I have 4 lots of 2 socks. How many socks do I have altogether?	'5 groups of 3' '5 lots of 3' '3 + 3 + 3 + 3 +3 = 15'  '5 times 3' '3 multiplied by 5' '5 x 3 = 15' '3 x 5 = 15'

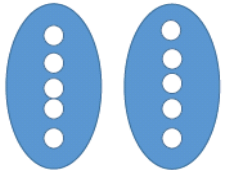
	Use **arrays** to support early multiplication  2 lots of 5 smiley faces 5, 10 **<u>or</u>** 5 lots of 2 smiley faces 2, 4, 6, 8, 10	**Use arrays to support multiplication** **6 x 5 = 30** '5 + 5 + 5 + 5 + 5 + 5 = 30' '6 rows of 5' '6 groups of 5' '5 groups of 6' '5 x 6 = 30' '6 x 5 = 30' 
	Using cubes to make groups of amounts supporting repeated addition  2 + 2 + 2 = 6	**Use an empty number line:** **6 x 5 = 30**  Make the link to repeated addition
	Using bead lines to make repeated groups of a number supported by repeated addition.  	**Shown on a number line** **5x 3 =**

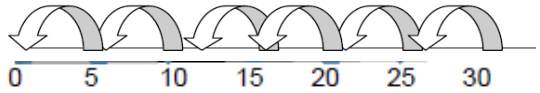
	5 + 5 + 5 = 15	**3 x 5 =** 
Continue to solve problems in practical contexts, and develop the language of early multiplication, with appropriate resources. *(multiply, times, multiplied by, lots of, groups of, array, repeated addition, multiplication)*		

Division

EYFS	Year 1	Year 2
Children will - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	**Solve one-step problems involving division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher** 🎬 **Count in multiples of twos, fives and tens (to the 12th multiple)** Children will start with practical sharing using a variety of resources. They will share objects into equal groups in a variety of situations. They will begin to use the vocabulary associated with division in practical contexts. Children will understand equal groups and share items out in play and problem solving.	**Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables** 🎬 **Calculate mathematical statements for division within the multiplication tables they know and write them using the division (÷) and equals (=) signs** 🎬 **Solve problems involving division, using materials, arrays, repeated subtraction, mental methods, and multiplication and division facts, including problems in contexts** Children will develop their understanding of division and use jottings to support calculation

	They will count in 2s , 10s, 5s and later 3s.	
Share the face pictures equally between the 2 circles. 	'Share 20 crayons between 2 pots.' 'How many crayons are in each pot?' 	'How many groups of 5?'  '15 shared equally between 3 people is…?' '15 divided by 3 equals 5' '15 divided by 5 equals 3' 15 ÷ 5 = 3 15 ÷ 3 = 5
Children will share practical objects in half. 'Share the 6 apples equally between me and you'  One for me, one for you, one for me etc	Children will move from **sharing** to **grouping** in a practical way  'Put 20 crayons into groups of 10. How many pots do we need?'	**Sharing and grouping:** '30 crayons shared equally between 3 pots.' (Sharing) 'We have 30 crayons and put ten in each pot. How many pots do we need?'  (Grouping). 30 ÷10 = 3 '30 divided by 10 = 3' 30 ÷ 3 = 10 '30 divided by 3 = 10'

	Use arrays to support early division  'How many faces altogether?  How many groups of two?' 'Five groups of two. 10 shared by 2 is 5.	**Using arrays to support division**  15 ÷ 5 = 3 15 ÷ 3 = 5 How many groups of 3? How many groups of 5? 15 shared between 3 people is…? 15 shared between 5 people is…? 15 divided by 5 = 3 15 divided by 3 = 5
	How many groups of 5?' '10 shared equally between 2 people.' 'Half of ten is five.' 	**Use an empty number line to count backwards:** **30 ÷ 5 = 6**

		 'How many jumps of 5 make 30?' Teach as repeated subtraction 30 – 5 = 25 25 – 5 = 20 20 – 5 = 15 15 – 5 = 10 10 – 5 = 5 5 – 5 = 0 Or 30- 5 – 5 – 5 – 5 – 5 – 5 = 0
Continue to solve problems in practical contexts, and develop the language of early division, with appropriate resources. *(divide, divided by, shared by, group, equal groups, repeated subtraction)*		