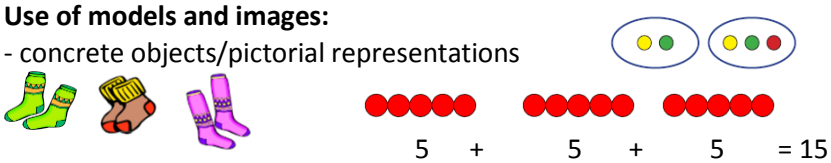
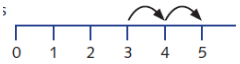
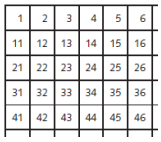
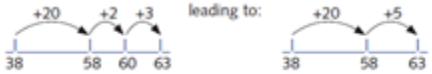
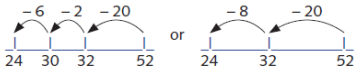
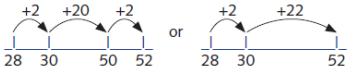
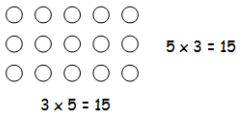
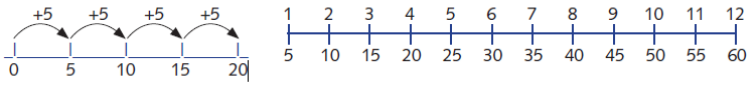
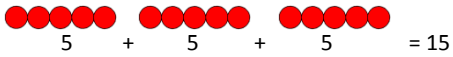
YEAR 2

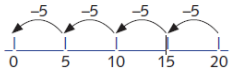
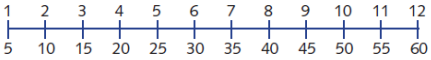
Addition		
Knowledge and understanding/Mental Strategies	**Informal Written Methods**	**Formal Written Methods**
Use of models and images: - concrete objects/pictorial representations  - practical apparatus  - number tracks and number lines  - 1–100 number square  - empty number line  • count in steps of 2, 3, and 5 from 0, and in tens from any number, forwards and backwards • recall and use addition facts to 20 fluently, and derive and use related facts up to 100, including adding two multiples of 10, e.g. 30 + 50 • identify near doubles, using doubles already known (e.g. 6 + 8, 40 + 41) • recognise and use patterns of similar calculations (e.g. 8 + 2 = 10, 18 + 2 = 20) • add numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - three one-digit numbers • use knowledge that addition can be done in any order (commutative), e.g. - put the larger number first and count on in tens or ones - add three small numbers by putting the largest number first and/or find a pair totalling 10 • add a 'near multiple of 10' to a two-digit number by adding 10, 20, 30 and adjusting • understand and use the inverse relationship between addition and subtraction • **Add two two-digit numbers: TO + TO (where answers do not exceed 100)** • partition additions into tens and ones, then recombine, **e.g.** 38 + 25 30 + 20 = 50 8 + 5 =13 50+13=63 38 + 25 = 38 + 20 + 5 = 58 + 5 = 63 **(use jottings)**	**Note:** **No** column preparation for formal methods. Calculations to be presented horizontally for mental calculation and partitioning.	**Not introduced in Year 2**

Subtraction

Knowledge and understanding/Mental Strategies	Informal Written Methods	Formal Written Methods
• **Use of models and images:** - concrete objects/pictorial representations  - practical apparatus  - number tracks and number lines: 'take away' (counting back)  'finding the difference' (counting up)  - 1–100 number square  • recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100, including subtracting two multiples of 10, e.g. 80 – 30 • subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones - a two-digit number and tens - two two-digit numbers • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • find a small difference by counting up from the smaller to the larger number, e.g. 51 – 4 • subtract a 'near multiple of 10' from a two-digit number by subtracting 10, 20, 30 and adjusting, e.g. 75-19 • recognise and use patterns of similar calculations (e.g. 10 – 0 = 10, 10 – 1 = 9, 10 – 2 = 8 ...) • understand and use the inverse relationship between addition and subtraction • **Subtract two two-digit numbers:** **TO – TO Use mental partitioning,** **e.g.** 52 – 28 52 – 20=32 32 – 8 = 24	**Note:** **No** column preparation for formal methods. Calculations to be presented horizontally for mental calculation and partitioning.	**Not introduced in Year 2**

YEAR 2

Multiplication		
Knowledge and understanding/Mental Strategies	**Informal Written Methods**	**Formal Written Methods**
• **Use of models and images:** - concrete objects/pictorial representations  - arrays  - number lines **e.g.**  • recognise multiplication as repeated addition  • counting in steps of a constant size • recall and use multiplication facts for the 2, 5 and 10 multiplication tables • understand and use the inverse relationship between multiplication and division, including doubling and halving •calculate the value of an unknown in a number sentence, **e.g.** ☐ x 2 = 6, 3x☐ = 30 •know that the x1, x2, x5, and x10 tables are known as the Key Facts •double all numbers to 20, multiples of 5 and 10 to 100	**Not introduced in Year 2**	**Not introduced in Year 2**

Division		
Knowledge and understanding/Mental Strategies	**Informal Written Methods**	**Formal Written Methods**
• **Use of models and images:** - concrete objects/pictorial representations  - arrays ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ 20 ÷ 5 = 4 ★ ★ ★ ★ ★ 20 ÷ 4 = 5 - number lines **e.g.**   • recognise division as grouping or sharing •counting in steps of a constant size recall and use division facts for the 2, 5 and 10 multiplication tables •show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • understand the link between division and fractions, • understand and use the inverse relationship between multiplication and division, including doubling and halving •calculate the value of an unknown in a number sentence, **e.g.** □ ÷ 2 = 6, 30 ÷ □ = 10 •know halves of numbers to 20	**Not introduced in Year 2**	**Not introduced in Year 2**