Addition and Subtraction

Year 1

- Partition and combine numbers using apparatus if required e.g. partition 76 into tens and ones; combine 6 tens and 4 ones.
- Read and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.
- Write mathematical statements involving addition (+), subtraction (-) and equals (=) signs.
- Demonstrate an understanding of the commutative law
- Demonstrate an understanding of inverse relationships involving addition and subtraction
- Recall at least four of the six number bonds for 10 and reason about associated facts
- Represent and use number bonds within 20.
- Represent and use subtraction facts within 20.
- Add one-digit and two-digit numbers to 20, including zero.
- Subtract one-digit and two-digit numbers to 20, including zero.
- Solve one-step problems that involve addition, subtraction and missing numbers using concrete objects and pictorial representations.

Year 3

- . Add and subtract numbers mentally, including a three-digit number and ones.
- Add numbers with up to three digits using the formal method of columnar addition.
- Add and subtract numbers mentally, including a three-digit number and tens.
- Subtract numbers with up to three digits using the formal method of columnar subtraction.
- Add and subtract numbers mentally, including a three-digit number and hundreds.
- Estimate the answer to a calculation and use inverse operations to check answers.
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Year 2

- Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
- Solve problems with addition and subtraction applying his/her increasing knowledge of written methods and mental methods where regrouping may be required.
- Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 - 3 = 4, then 17 - 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 - 14 = 3 and 17 - 3 = 14).
- Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100
- Add and subtract numbers where no regrouping is required, using concrete objects, pictorial representations, and mentally, including a two-digit number and ones.
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and tens.
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including two two-digit numbers.
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including adding three one-digit numbers.
- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.
- Recognise ad use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
- Recall doubles and halves to 20 e.g. knowing that double 2 is 4, double 5 is 10 and half of 18 is 9
- Use estimation to check that his/her answers to a calculation are reasonable e.g. knowing that 48 + 35 will be less than 100
- Solve missing number problems using addition and subtraction

Year 4

- Add numbers with up to four digits using the formal method of columnar addition.
- Estimate and use inverse operations to check answers to a calculation. Subtract numbers with up to four digits using the formal method of columnar subtraction.

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Year 5

- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).
- Add and subtract numbers mentally with increasingly large numbers.
- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Year 6

- Perform mental calculations with mixed operations to carry out calculations involving the four operations.
- Solve multi-step problems in contexts, deciding which operations and methods to use and why e.g. find the change from £20 for three items that cost £1.24, £7.92 and £2.55; a roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?; a bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?.
- Solve problems involving addition and subtraction.
- Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.