

## NUMBER - Addition and subtraction

### Pupils should be taught to:

#### Year 1 programme of study:

read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs  
represent and use number bonds and related subtraction facts within 20  
add and subtract one-digit and two-digit numbers to 20, including zero  
solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.

#### Year 2 programme of study:

solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures  
applying their increasing knowledge of mental and written methods  
recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100  
add and 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*  
*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 and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems

#### Year 3 programme of study:

add and subtract numbers mentally, including:  
*a three-digit number and ones*  
*a three-digit number and tens*  
*a three-digit number and hundreds*  
add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction  
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 4 programme of study:

add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate  
estimate and use inverse operations to check answers to a calculation  
solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

**Year 5 programme of study:**

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 programme of study:**

perform mental calculations, including with mixed operations and large numbers.

solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.