

Number and Place Value



Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
Count forwards or backwards in steps of powers of 10 from any given number up to 1,000,000
Interpret negative numbers in context e.g. temperature, count forwards and backwards with positive and negative whole numbers, including through 0
Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000
Solve number problems/practical problems that involve all of the above
Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals

Fractions (including decimals and percentages)



Compare and order fractions whose denominators are all multiples of the same number
Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$]
Add and subtract fractions with the same denominator, and denominators that are multiples of the same number
Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
Read and write decimal numbers as fractions [for example, $0.71 = 71/100$]
Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place
Read, write, order and compare numbers with up to 3 decimal places
Solve problems involving numbers up to 3 decimal places
Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction
Solve problems which require knowing percentage and decimal equivalents of $1/2$, $1/4$, $1/5$, $2/5$, $4/5$ and those fractions with a denominator of a multiple of 10 or 25

Calculation

Addition and Subtraction

Add and subtract whole numbers with more than 4 digits, including using formal written methods (column 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

Multiplication and Division

Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers
Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
Establish whether a number up to 100 is prime and recall prime numbers up to 19
Multiply numbers up to 4 digits by a 1 or 2-digit number using a formal written method, including long multiplication for 2-digit numbers
Multiply and divide numbers mentally, drawing upon known facts e.g. $720 \div 90 = 8$
Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes
Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates



Year 5
End of year expectations

