Year 1 maths expectations

Number and place value

Counts to and across 100, forwards and backwards, beginning with 0 or one, or from any given number
Counts, reads and writes numbers to 100 in numerals; counts in multiples of twos, fives and tens
Given a number, identifies one more and one less

Addition and subtraction

Represents and uses number bonds and related subtraction facts within 20

Fractions (including decimals)

Recognises, finds and names a half as one of two equal parts of an object, shape or quantity

Measurement

Compares, describes and solves practical problems for:
1. lengths and heights eg long/short, longer/shorter, tall/short, double/half;
2. mass/weight eg heavy/light, heavier than, lighter than;
3. capacity and volume eg full/empty, more than, less than, half, half full, quarter; and
4. time eg quicker, slower, earlier, later.

Tells the time to the hour and half past the hour and draws the hands on a clock face to show these times

Properties of shape

Recognises and names common 2-D and 3-D shapes, including:
1. 2-D shapes eg rectangles (including squares), circles and triangles;
2. 3-D shapes eg cuboids (including cubes), pyramids and spheres.

Year 2 maths expectations

Number and place value

Counts in steps of two, three, and five from 0, and in tens from any number, forward and backward
Compares and orders numbers from 0 up to 100
Uses < > and = signs correctly
Uses place value and number facts to solve problems

Addition and subtraction

Solves problems with addition and subtraction by:
1. using concrete objects and pictorial representations, including those involving numbers, quantities and measures; and
2. applying an increasing knowledge of mental and written methods.

Recalls and uses addition and subtraction facts to 20 and 100:
1. fluently up to 20.

Multiplication and division

Recalls and uses multiplication and division facts for the two, five and 10 multiplication tables, including recognising odd and even numbers
Solves problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

Fractions (including decimals)

Recognises, finds, names and writes fractions 1/3, 1/4, 2/4, and 3/4 of a length, shape, set of objects or quantity

Measurement

Solves simple problems in a practical context involving addition and subtraction of money of the same unit including giving change

Geometry: properties of shape

Compares and sorts common 2-D and 3-D shapes and everyday objects

Geometry: position and direction

Uses mathematical vocabulary to describe position, direction and movement including movement in a straight line, and distinguishes between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)

Statistics

Asks and answers questions about totalling and comparing categorical data.

Year 3 maths expectations

Number and place value

Counts from 0 in multiples of four, eight, 50 and 100
Can work out if a given number is greater or less than 10 or 100
Recognises the place value of each digit in a three-digit number (hundreds, tens, and ones)
Solves number problems and practical problems involving these ideas

Addition and subtraction

Adds and subtracts numbers mentally including:
- a three-digit number and ones;
- a three-digit number and tens; and
- a three-digit number and hundreds.

Multiplication and division

Recalls and uses multiplication and division facts for the multiplication tables:
- three;
- four; and
- eight.

Writes and calculates mathematical statements for multiplication and division using the multiplication tables that are known including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

Fractions (including decimals)

Counts up and down in tenths; recognises that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

Recognises, finds and writes fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
Recognises and shows, using diagrams, equivalent fractions with small denominators

Measurement

Measures, compares, adds and subtracts lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
Adds and subtracts amounts of money to give change, using both £ and p in practical contexts
Tells and writes the time from an analogue clock and 12-hour and 24-hour clocks
Identifies right angles, recognises that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identifies whether angles are greater than or less than a right angle

Statistics

Interprets and presents data using bar charts, pictograms and tables

Year 4 maths expectations

Number and place value

Counts in multiples of six, seven, nine, 25 and 1,000
Counts backwards through zero to include negative numbers
Orders and compares numbers beyond 1,000
Rounds any number to the nearest 10, 100 or 1,000

Addition and subtraction

Solves addition and subtraction two-step problems in context, deciding which operations and methods to use and why

Multiplication and division

Recalls multiplication and division facts for multiplication tables up to 12 x 12

Fractions (including decimals)

Recognises and shows, using diagrams, families of common equivalent fractions
Counts up and down in hundredths; recognises that hundredths arise when dividing an object by 100 and dividing tenths by 10
Rounds decimals with one decimal place to the nearest whole number
Solves simple measure and money problems involving fractions and decimals to two decimal places

Measurement

Converts between different units of measure eg kilometre to metre; hour to minute

Geometry: properties of shape

Compares and classifies geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
Identifies lines of symmetry in two dimensional shapes presented in different orientations

Geometry: position and direction

Plots specified points and draws sides to complete a given polygon

Statistics

Solves comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Year 5 maths expectations

Number and place value

Reads, writes, orders and compares numbers to at least 1,000,000 and determines the value of each digit
Interprets negative numbers in context, counts forwards and backwards with positive and negative whole numbers including through zero

Addition and subtraction

Adds and subtracts whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)
Numbers mentally with increasingly large numbers (eg 12,462 - 2,300 = 10,162)

Multiplication and division

Identifies multiples and factors including finding all factor pairs of a number and common factors of two numbers
Solves problems involving multiplication and division including using a knowledge of factors and multiples, squares and cubes
Solves problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

Fractions (including decimals)

Compares and orders fractions whose denominators are all multiples of the same number
Reads and writes decimal numbers as fractions eg 0.71 = 71/100
Reads, writes, orders and compares numbers with up to three decimal places

Solves 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

Measurement

Converts between different units of metric measure (eg kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
Measures and calculates the perimeter of composite rectilinear shapes in centimetres and metres
Calculates and compares the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2)

Geometry: Properties of shape

Draws given angles and measures them in degrees (0)
Distinguishes between regular and irregular polygons based on reasoning about equal sides and angles

Geometry: position and direction

Covered in Y6

Statistics

Completes, reads and interprets information in tables, including timetables

Year 6 maths expectations

Place value

Rounds any whole number to a required degree of accuracy
Uses negative numbers in context and calculates intervals across zero

Calculation

Multiplies multi-digit numbers up to four digits by a two-digit whole number using the formal written method of long multiplication
Divides numbers up to four digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
Solves addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Uses estimation to check answers to calculations and determines, in the context of a problem, an appropriate degree of accuracy

Fractions

Uses written division methods in cases where the answer has up to two decimal places
Solves problems which require answers to be rounded to specified degrees of accuracy
Recalls and uses equivalences between simple fractions, decimals and percentages, including in different contexts

Ratio and proportion

Solves problems involving the calculation of percentages eg of measures and calculations such as 15 per cent of 360, and the use of percentages for comparison

Solves problems involving unequal sharing and grouping using knowledge of fractions and multiples

Algebra

Uses simple formulae
Measurement
Uses, reads, writes and converts between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

Properties of shape

Compares and classifies geometric shapes based on their properties and sizes and finds unknown angles in any triangles, quadrilaterals and regular polygons

Position and direction

Draws and translates simple shapes on the coordinate plane and reflects them in the axes
Interprets pie charts and line graphs and uses these to solve problems

Statistics

Calculates and interprets the mean as an average