



Skills of a Year 1 Mathematician:

Number

- Counts reliably to 100.
- Counts on and back in 1s, 2s, 5s and 10s from any given number up to 100.
- Writes all numbers in words to 20.
- Able to say the number that is one more or one less than a number to 100.
- Recalls all pairs of addition and subtraction number bonds to 20.
- Adds and subtracts 1-digit and 2-digit numbers to 20, including zero.
- Knows the signs + -=.
- Solves missing number problems.
- Solves a one-step problem using addition and subtraction, using concrete objects and pictorial representations.

Measurement and geometry

- Recognises all coins.
- Recognises and can name the 2D shapes: circle, triangle, square and rectangle.
- Recognises and can name the 3D shapes: cuboid, pyramid, sphere.
- Knows the names of the days of the week and months of the year.
- Tells the time to o'clock and half past the hour.

Skills of a Year 2 Mathematician:

Number:

- Reads and writes all numbers to at least 100 in numerals and words.
- Recognises odd and even numbers to 100.
- Counts in steps of 2, 3 and 5 from 0.
- Recognises and defines the place value of each digit in a 2 digit number.
- Compares and order numbers from 0 to 100 using the < > and = signs.
- Is able to name the fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ and can find fractional values of shapes, lengths and numbers.
- Recalls and uses multiplication and division facts for the 2, 5 and 10x tables.
- Able to add and subtract a 2-digit number and ones.
- Able to add and subtract a 2-digit number and tens.
- Able to add and subtract two 2-digit numbers.
- Able to add three 1-digit numbers.
- Solves problems involving addition and subtraction.
- Understands and can use commutivity in relation to addition, subtraction, multiplication and division.

Measurement, geometry and statistics:

- Chooses and uses appropriate standard units to estimate length, height, temperature and capacity.
- Able to tell and write the time to 5 minute intervals.
- Recognises and uses the symbols £ and p when solving problems involving addition and subtraction of money.
- Able to describe the properties of 2D and 3D shapes to include edges, vertices and faces.
- Interprets and constructs pictograms, tally charts, block diagram and simple tables.

Skills of a Year 3 Mathematician:

Number:

- Able to compare and order numbers to 1000 and read and write numbers to 1000 in numerals and words.
- Counts from 0 in multiples of 4, 8, 50 and 100.
- Recognises the value of each digit in a 3-digit number.
- Understands and can count in tenths, and find the fractional value of a given set.
- Adds and subtracts fractions with a common denominator.
- Able to derive and recall multiplication facts for 3, 4 and 8x tables.
- Able to add and subtract mentally combinations of 1-digit and 2-digit numbers.
- Adds and subtracts numbers with up to 3-digits using formal written methods.
- Able to write and calculate mathematical statements for multiplication and division using the 2x, 3x, 4x, 5x, 8x and 10x tables.
- Calculates 2-digit x 1-digit.
- Solves number problems using one and two step problems

Measurement, geometry and statistics:

- Identifies right angles and can compare other angles stating whether they are greater or smaller than a right angle.
- Identifies horizontal and vertical lines and pairs of perpendicular and parallel lines.
- Able to tell the time to the nearest minute and use specific vocabulary, including seconds, am & pm.
- Able to measure, compare, add and subtract using common metric measures.
- Solves one and two step problems using information presented in scaled bar charts, pictograms and tables.

Skills of a Year 4 Mathematician:

Number:

- Recalls all multiplication facts to 12 x 12.
- Rounds any number to the nearest 10, 100 or 1000 and decimals with one decimal place to the nearest whole number.
- Counts backwards through zero to include negative numbers.
- Compares numbers with the same number of decimal places up to 2-decimal places.
- Able to recognise and write decimal equivalents of any number of tenths or hundredths.
- Able to add and subtract up to 4-decimal places using formal written methods of columnar addition and subtraction.
- Able to divide a 1 or 2-digit number by 10 or 100 identifying the value of the digits in the answer as units, tenths and hundredths.
- Able to multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout.
- Solves two step addition and subtraction problems in context.
- Solves problems involving multiplication.

Measurement, geometry and statistics:

- Compares and classifies geometrical shapes, including quadrilaterals and triangles, based on their properties and sizes.
- Knows that angles are measured in degrees and can identify acute and obtuse angles.
- Able to compare and order angles up to two right angles by size.
- Able to measure and calculate the perimeter of a rectilinear figure in cm and m.
- Reads, writes and converts between analogue and digital 12 and 24 hour times.
- Interprets and presents discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

Skills of a Year 5 Mathematician:

Number:

- Counts forwards and backwards in steps of powers of 10 for any given number up to 1,000,000.
- Is able to recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents.
- Recognises mixed numbers and improper fractions and can convert from one to the other.
- Able to read and write decimal numbers as fractions.
- Recognises the % symbol and understands that percent relates to a number of parts per hundred.
- Writes percentages as a fraction with denominator hundred and as a decimal fraction.
- Compares and adds fractions whose denominators are all multiples of the same number.
- Multiplies and divides numbers mentally drawing on known facts up to 12×12 .
- Rounds decimals with 2dp to the nearest whole number and to 1dp.
- Recognises and uses square numbers and cube numbers; and is able to use the notation 2nd and 3rd.
- Multiplies and divides whole numbers and those involving decimals by 10, 100 and 1000.
- Multiplies numbers up to 4-digit by a 1 or 2-digit number using formal written methods, including long multiplication for a 2-digit number.
- Divides numbers up to 4-digits by a 1-digit number.
- Solves problems involving multiplication and division where large numbers are used by decomposing them into factors.
- Solves addition and subtraction multi-step problems in context, deciding which operations and methods to use and why.
- Solves problems involving numbers up to 3dp.

Measurement, geometry and statistics:

- Understands that angles are measured in degrees.
- Able to estimate and compare acute, obtuse and reflex angles.
- Able to draw given angles and measure them in degrees.
- Able to convert between different units of metric measures and estimate volume and capacity.
- Measures and calculates the perimeter of composite rectilinear shapes in cm and m.
- Calculates and compares the areas of squares and rectangles including using standard units (cm^2 and m^2).
- Solves comparison, sum and difference problems using information presented in a line graph.

Skills of a Year 6 Mathematician:

Number

- Uses negative numbers in context, and calculates intervals across zero.
- Rounds any whole number to a required degree of accuracy and solves problems which require answers to be rounded to a specific degree of accuracy.
- Solves problems involving the relative sizes of two quantities where the missing values can be found by using integer multiplication and division facts.
- Uses common factors to simplify fractions; uses common multiples to express fractions in the same denomination.
- Solves problems involving the calculation of percentages.
- Multiplies 1-digit numbers with up to two decimal places by whole numbers.
- Performs mental calculations, including with mixed operations with large numbers.
- Divides numbers up to 4-digits by a 2-digit whole number using formal written methods of long division and interprets the remainder in various ways.
- Uses knowledge of order of operations to carry out calculations involving all four operations.
- Adds and subtracts fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
- Multiplies simple pairs of proper fractions, writing the answer in its simplest form.
- Divides proper fractions by whole numbers.

- Associates a fraction with division and calculates decimal fraction equivalents.
- Expresses missing number problems algebraically.
- Able to find pairs of numbers that satisfy number sentences involving two unknowns.

Measurement, geometry and statistics

- Recognises, describes and builds simple 3D shapes, including making nets.
- Compares and classifies geometric shapes based on their properties and sizes and find unknown angles in any triangle, quadrilateral and regular polygons.
- Able to illustrate and name parts of circles, including radius, diameter and circumference and know that the radius is half the diameter.
- Able to read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and visa versa, using decimal notation to up to 3 decimal places.
- Calculates the area of a parallelogram and triangles and is able to calculate, estimate and compare volumes of cubes and cuboids using standard units.
- Interprets and constructs pie charts and line graphs and uses these to solve problems.