Mathematics Curriculum
Coverage and Progression

Reception

Number

40-60 months

Recognise some numerals of personal significance.
Recognises numerals 1 to 5.
Counts up to three or four objects by saying one number name for each item.
Counts actions or objects which cannot be moved.
Counts objects to 10, and beginning to count beyond 10.
Counts out up to six objects from a larger group.
Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.
Counts an irregular arrangement of up to ten objects.
Estimates how many objects they can see and checks by counting them.
Uses the language of 'more' and 'fewer' to compare two sets of objects.
Finds the total number of items in two groups by counting all of them.
Says the number that is one more than a given number.
Finds one more or one less from a group of up to five objects, then ten objects.
In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.
Records, using marks that they can interpret and explain.
Begins to identify own mathematical problems based on own interests and fascinations.

Early Learning Goal

Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Shape, space and measure

40-60 months

Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes.
Selects a particular named shape.
Can describe their relative position such as 'behind' or 'next to'.
Orders two or three items by length or height.
Orders two items by weight or capacity.
Uses familiar objects and common shapes to create and recreate patterns and build models.
Uses everyday language related to time.
Beginning to use everyday language related to money.
Orders and sequences familiar events.
Measures short periods of time in simple ways.

Early Learning Goal

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.
They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Year 1

Number

To count, read and write numbers to 100
To count in 2s, 5s and 10s and to continue number patterns using these multiples.
Identify and represent numbers using a variety of representations, e.g. number lines and place value resources to 100.

Addition and Subtraction

Write and solve 1-step addition and subtraction problems.
Read, write and solve calculations involving +, - and =
Add and subtract using a number line, using mental recall to 20.
Recall and state number bonds to 10/20.
Number bonds within 10 (and using this for number bonds to 20) e.g. 3 + 4 = 7, 13 + 14 = 27
Secure understanding of the symbols +, −, =
Use inverse operations to solve problems.
Solve missing number problems.
Practical solving using objects, pictures, numbers. To use talk partners to explain how they got to the answer.

Multiplication and Division

Understanding the symbols x and ÷
Solving problems using objects, pictorial rep and array.
Using inverse operations.
Making connections between arrays, number patterns, 2, 5s and 10s.

Fractions

Recognise a ½ and ¼, find and name as part of an object, shape or quantity.
Halving even numbers up to and including 20.
Recognise connections between halves and quarters.

Measurement

Measure and record quantities using m/cm, g/kg, l/ml.
Measure and record time using hours, minutes and seconds.
Compare quantities using size (greater, less, more, fewer etc).
Recognise order and understand the value of coins and notes
Sequence events in chronological order including dates – days of the week/month.

Geometry

Recognise and name common 2D and 3D shapes.
To understand properties of a shape. To begin to use the appropriate language to describe.
To describe motion of objects using directions (forward, backward, left, right, up, down), distance and rotation (in full and half turns.

Year 2

Number

To count, read and write numbers, in figures and words to 1000.
To recognise odd and even numbers.
To recognise place value to 1000 and to compare and order numbers up to 100. To use <, >, =
Represent and estimate numbers, including on a number line.

Addition and Subtraction

Fluently recall number facts to 20, using + and – with confidence.
+ and – using familiar (not formal) strategies for numbers up to 4 digits. To move into using more formal strategies, including a number line (to represent and record calculation).
To understand the inverse relationship.

Multiplication and Division

Recall and use x and ÷ facts for 2,3, 5 and 10 times tables and apply to problems in a context
Record using x, ÷ and =
Show that x can be done in any order and ÷ cannot.

Fractions

Recognise, name and write fractions ⅓, ¼, ½, ¾ in a variety of contexts.
Write simple fractions of numbers and recognise simple equivalence.
Count in fractions (count in 3s to show link with ⅓)
Connect fractions to division.

Measurement

To choose and use appropriate standard units to estimate and measure length/height in any direction.
Using the correct unit of measurement and equipment to solve problems involving capacity, mass and temperature.
To compare and order lengths, mass, volume/ capacity and record results using <, > and =
Recognise and use symbols for pounds £, pence; combine coins to make a value/or the same amounts.
Tell and write the time to 5 minutes, including past/to the hour (including drawing hands onto a clock face). To also be able to compare and sequence intervals of time including knowing the number of minutes in an hour and the hours in a day.
To solve problems in a practical context.

Geometry

Identify, compare, sort and describe the properties of 2D and 3D shapes.
To recognise 2D shapes on the surface of a 3D shape.
To arrange combinations of mathematical objects in patterns and sequences.
To use mathematical language to describe position, direction and movement and distinguishing between rotation as a turn and in terms of right angle for ¼, ½ and ¾.

Statistics

Interpret and construct pictograms, tally charts, block diagrams and simple tables
Ask and answer questions about totalling, comparing and sorting categories by quantities.

Year 3

Number and Place Value

Count from 0 in multiples of: 4, 8, 50 and 100.
Find more/less than a given number (and 100 more/less).
Recognise place value for 4 digit numbers.
Compare and order numbers up to 100.
Read and write numbers up to 1000.
Solve problems and practical problems involving the objectives above.

Addition and Subtraction

+ and – numbers mentally, including:
- 3 digit numbers and one
- 3 digit numbers and tens
- 3 digit numbers and hundreds
Add and subtract using column method for numbers up to 3 digits.
Use the inverse relationship and use it to check answers.

Multiplication and Division

Quick recall and use of multiplication/division facts (2, 3, 4, 5, 8 and 10s).
Calculate multiplication and division using known facts (including 2 digit by 1 digit) using mental methods and beginning to use written methods.
Solve a range of problems using multiplication and division.

Fractions

Understand and use tenths (as parts of numbers or quantities or objects).
Recognise, find and write unit fractions and non-unit fractions with small denominators of a set of objects.
Recognise and show, using diagrams, equivalent fractions with small denominators.
Add and subtract fractions with the same denominator.
Solve problems that involve fractions.

Measurement

Measure, compare, add and subtract: length (m, cm, mm); mass (kg/g); volume/ capacity (l, ml).
Measure the perimeter of 2D shapes.
Add and subtract amounts of money (and give change).
Tell time from analogue clock (including 12 & 24 hour clocks).
Estimate and read time to the nearest 5 minutes.
Know the number of seconds in a minute, days in a month (and year/leap year).

Geometry

Recognise parallel and perpendicular lines
Recognise and understand the angles of 2D and 3D shapes.
Understand position and direction.

Statistics

Interpret and present data using bar charts, pictograms and tables
Use above skills to solve problems involving statistics, including ordering and answering questions about data.

Year 4

Number and Place Value

Count in multiples of 6, 7,9,25 and 1000.
Count back and up in different multiples including 2,3,4,6 and negative numbers.
Recognise place value of each digit in a 4 digit number and be able to order these numbers.
Problem solving – using different representations with varied numbers.
Round numbers to 10, 100 and 1000.

Addition and Subtraction

Addition and subtraction to 4 digits including estimations use inverse operations to check answers.
Solve 2 step problems.

Multiplication and Division

Recall multiplication facts to 12 x 12.
To solve problems using facts, factor pairs.
To use a formal format to multiply 2 and 3 digit numbers by a single digit number.
To use known facts e.g. 2x3 =6 so 2 x 30 = 60 etc

Fractions

Equivalent fractions of common families.
Counting up and down in hundredths. To recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
Solve problems – to calculate quantities.
Add and subtract fractions with the same denominator.
Begin to write decimals equivalent to any numbers up to 2 places and fractions.

Measure

Convert different units of measure.
Calculate the perimeter of shapes.
Find area of rectangular shapes by counting squares.
Estimate, compare and calculate using different measure including money.
Read, write and convert analogue and digital time.
Solve time problems.
Recognise the concept of symmetry.

Geometry

Compare and classify geometric shapes.
Identify acute and obtuse angles.
Identify lines of symmetry in 2D shapes.
Identify and calculate position and direction.
Describe positions on a 2D grid using coordinates, plot points and describe a 'journey'.

Statistics

Interpret and present discrete and continuous data using graphical methods.
Solve pictograms, tables and other graphs.

Year 5

Number and Place Value

Read, write, order and round numbers up to 1,000,000.
Interpret negative numbers by counting forwards and backwards through zero.
Solve linear number sequences/rules.
Roman numerals to M.
Solve number and practical problems.

Addition and Subtraction

Solve + and – multistep problems.
Formed written methods > 4 digits.
Adding and subtracting numbers mentally (including larger numbers).
Rounding to check.

Multiplication and Division

Solve problems involving multiplication and division. Including scaling /simple rates and reminders in context.
Understand and use properties of number (multiple, factor/prime etc).
Formal short and long written methods (up to ThHTU x TU).
Mental methods using known facts.
Multiply and divide by 10,100, 100 including decimals.
Equal sign to indicate equivalence.

Fractions and Decimals

Solve problems (requiring % and decimal equivalents).
Add and subtract and order fractions whose denominators are multiples of the same number.
Visual representations of equivalent fractions.
Understand mixed numbers and improper fractions.
Multiply fractions by whole numbers.
Understand decimals to 100.
Convert between fractions / decimals / %.

Measure

Solve problems involving all four operations and converting between units of time.
Converting between metric measures and metric/imperial.
Area and perimeter of rectangle of rectangles and composite shapes.
Estimating volume/capacity (cuboids).

Geometry

Nets of 3D shapes.
Angles: estimate/compare/measure/draw – up to 360 degrees.
Distinguish between regular/irregular polygons.
Reflection and translation (coordinates in the 1st quadrant).

Statistics

Interpret and use information on a line graph.
Complete/read/interpret/tables/timetables.