Curriculum overview for Year 1
Mathematics

Number & PV
Counting forward and back from any number to 100 in ones, twos, fives and tens
identifying one more and less using objects and pictures (inc number lines) using the language of equal to, more than, less than (fewer than)
Writing any number to 100 including number words from 1-20
Addition & Subtraction
Reading, writing and interpreting mathematical statements involving + - =
represent and use number bonds to and related subtraction facts to 20
Add and subtract one digit and two digit numbers to 20 including 0
Solve one step problems involving addition and subtraction including missing numbers
Multiplication and division
Solve one step problems involving multiplication and division using arrays, pictorial representation and objects **with support**
Fractions
Recognise, find and name a half and a quarter of objects, shapes and quantity
Measurement
Compare, describe, solve practical problems and record for length, height, mass/weight, capacity and volume, time
Recognise and know value of coins and notes
Sequence events in chorological order using language of time
Recognise days of the week, months of the year
Tell the time to the hour and half past. Draw hands on clocks to show hour and half past times
Recognise and name 2D and 3D shapes, describing position and movement including whole, ½ ¼ ¾ turns

Curriculum overview for Year 2
Mathematics

Number & PV
Count in steps of 2, 3, 5 and 10 from any number forward & backward
Recognise the place value of each digit in a two digit number, identifying representing and estimating numbers , placing numbers on a number line and compare numbers using < and > and = signs.
Use PV and number facts to solve problems.
Read and write numbers to at least 100 in numerals and words
Addition & Subtraction
Solve problems using numbers, quantities and measures with concrete objects and pictorial representation, applying knowledge of mental and written methods.
Add and subtract numbers using objects or pictures including a two digit number and ones, a 2 digit number and tens, two 2 digit numbers, three 1 digit numbers
Know that addition can be done in any order and subtraction cannot. Use the inverse operation to solve missing number problems

Addition & Subtraction
solve problems with addition and subtraction involving numbers, quantities and measures applying their increasing knowledge of mental and written methods
recall and add addition facts to 20 and related facts to 100
Add & Subtract: a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three one-digit numbers
recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
Know that addition can be done in any order but subtraction cannot

Multiplication & Division
Recall multiplication and division facts for 2x 5x and 10 x table including recognising odd and even numbers
Use signs for multiplication & division
Know that multiplication can be done in any order but division cannot
Solve problems involving multiplication and division using arrays, number facts, word problems

Fractions
recognise, find, name and write fractions 1/3, ¼, ½, and 2/4, ¾ of a length, shape, set of objects or quantity.
Recognise that ½ = 2/4

Measure
Measure: length in m/cm, weigh in kg/g, capacity in l/ml, temperature in c using ruler and scales
Order and compare mass/length/volume using < >
Recognise £ p combine amounts to make a value
Find different values of coins to make the same amount
Solve practical problems involving money
Compare and sequence intervals of time, tell the time to the nearest 5mins including ¼ past/to
Know number of minutes in an hour/hours in a day

Geometry: properties of Shape
Name and describe 2D and 3D shape including recognising symmetry, comparing and sorting shapes

Geometry: position & Direction
Order and arrange mathematical objects in patterns and sequences
Use vocab to describe position, direction and movement including turns, right angles

Statistics
Interpret and make pictograms, tally chart, block diagrams, tables including asking questions about totalling and comparing

Curriculum overview for Year 3 Mathematics

Number & PV
Count in multiples of 4, 8, 50, 100 from 0 and find 10 or 100 more or less than any number
Recognise place value of each digit in three digit numbers
Order, compare, read and write numerals and number words to 1000
Solve number problems involving these ideas

Addition and Subtraction
Add and subtract mentally: 3 digit number and ones, 3 digit number and tens, 3 digit umber and 100s
Add and subtract up to 3 digits umbers using formal written methods.
Estimate answers and use inverse operati9ons to check
Solve problems including missing numbers, number facts

Multiplication & Division
Recall 3x 4x 8x facts
Use mental and formal methods including known facts to write and calculate number problems (column method)

Fractions
Count up and down in tenths, recognising that it is dividing an object into ten equal parts, recognise, write and find fractions of objects
Recognise and show equivalent fractions
Add and subtract fractions with the same denominator
Solve problems involving fractions

Measure
Measure, compare, add subtract lengths, mass and volume
Measure perimeter of 2D shapes
Add and subtract amounts of money including giving change
Write and tell the time on an analogue clock, including recognising roman numerals, and 12 and 24 hour clocks
Estimate and read time to the nearest minute
Know the number of seconds in a minute, and days in each month, year and leap year
Compare durations of events

Geometry: properties of Shape
Draw 2D and make 3D models of shapes, including in different orientation
Recognise angles as a property of shape, identify that two right angles = half turn, 3 = ¾ turn, 4 = whole turn
Identify pairs of perpendicular and parallel lines horizontally and vertically

Statistics
Interpret and present bar charts, pictograms and tables
Solve one and two step problems using information from charts and tables

Curriculum overview for Year 4
Mathematics

Number & PV
Count in multiples of 6, 7, 9, 25, 1000
Find 1000 more/less than any given number and order and compare numbers beyond 1000
Recognise place value of 4 digit numbers ThHTU
Round any umber to the nearest 10, 100, or 1000
Solve number and practical problems involving all of the above with increasing large positive numbers
Read Roman numerals to and know that over time the numeral system changed to include 0 and place value
Count back through 0 including negative numbers

Addition and Subtraction
Add and subtract 4 digit numbers using formal methods (column additionand subtraction)
Estimate and use inverse operation to check answers
Solve addition and subtraction two step problems, deciding which method to use and give reasons for choices

Multiplication & Division
Recall multiplication and division facts for all tables up to 12 x 12
use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers recognise and use factor pairs and commutativity in mental calculations
 multiply two-digit and three-digit numbers by a one-digit number using formal written layout solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Fractions (including decimals)
recognise and show, using diagrams, families of common equivalent fractions
Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
Add and subtract fractions with the same denominator
Recognise and write decimal equivalents of any number of tenths or hundredths
Recognise and write decimal equivalents to 41, 21, 43
Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
Round decimals with one decimal place to the nearest whole number
Compare numbers with the same number of decimal places up to two decimal places
Solve simple measure and money problems involving fractions and decimals to two decimal places.

Measure
Convert between different units of measure [for example, kilometre to metre; hour to minute]
measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
Find the area of rectilinear shapes by counting squares
Estimate, compare and calculate different measures, including money in pounds and pence
read, write and convert time between analogue and digital 12- and 24-hour clocks
Solve problems involving converting

Geometry: properties of Shape
Draw 2D and make 3D models of shapes, including in different orientation
Recognise angles as a property of shape, identify that two right angles = half turn, 3 = ¾ turn, 4 = whole turn
Identify pairs of perpendicular and parallel lines horizontally and vertically

Geometry: Position and Direction
describe positions on a 2-D grid as coordinates in the first quadrant
Describe movements between positions as translations of a given unit to the left/right and up/down
Plot specified points and draw sides to complete a given polygon.

Statistics
 interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Curriculum overview for Year 5
Mathematics

Number & PV
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 for any given number up to 1 000 000
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
Solve number problems and practical problems that involve all of the above
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Addition and Subtraction
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.

Multiplication & Division
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.

Fractions (including decimals & 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, 52 + 54 = 56 = 151]
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 = 10071] ⬚ recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents round decimals with two decimal places to the nearest whole number and to one decimal place
Read, write, order and compare numbers with up to three decimal places
solve problems involving number up to three decimal places
recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
Solve problems which require knowing percentage and decimal equivalents of 21, 41, 51, 52, 54 and those fractions with a denominator of a multiple of 10 or 25.

Measure
convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes
Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]
Solve problems involving converting between units of time
use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Geometry: properties of Shape
identify 3-D shapes, including cubes and other cuboids, from 2-D representations ⬚ know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
draw given angles, and measure them in degrees (o)
Identify: ⬚ angles at a point and one whole turn (total 360o) ⬚ angles at a point on a straight line and 21 a turn (total 180o) ⬚ other multiples of 90o
use the properties of rectangles to deduce related facts and find missing lengths and angles
distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Geometry: Position and Direction
identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

Statistics
solve comparison, sum and difference problems using information presented in a line graph
complete, read and interpret information in tables, including timetables.

Curriculum overview for Year 6
Mathematics

Number & PV
read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
Round any whole number to a required degree of accuracy
Use negative numbers in context, and calculate intervals across zero
Solve number and practical problems that involve all of the above.

Addition, Subtraction, Multiplication & Division
multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context perform mental calculations, including with mixed operations and large numbers
identify common factors, common multiples and prime numbers use their knowledge of the order of operations to carry out calculations involving the four operations
solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
solve problems involving addition, subtraction, multiplication and division use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Fractions (including decimals & Percentages)
use common factors to simplify fractions; use common multiples to express fractions in the same denomination
compare and order fractions, including fractions > 1
add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $41 \times 21 = 81$]
Divide proper fractions by whole numbers [for example, $31 \div 2 = 61$] associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 83]
identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
multiply one-digit numbers with up to two decimal places by whole numbers use written division methods in cases where the answer has up to two decimal places
Solve problems which require answers to be rounded to specified degrees of accuracy
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Ratio & Proportion
solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
solve problems involving similar shapes where the scale factor is known or can be found
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Algebra
use simple formulae
generate and describe linear number sequences
express missing number problems algebraically
find pairs of numbers that satisfy an equation with two unknowns
enumerate possibilities of combinations of two variables.

Measure
solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
use, 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 vice versa, using decimal notation to up to three decimal places
convert between miles and kilometres
recognise that shapes with the same areas can have different perimeters and vice versa
recognise when it is possible to use formulae for area and volume of shapes
calculate the area of parallelograms and triangles
calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3].

Geometry: properties of Shape
draw 2-D shapes using given dimensions and angles
Recognise, describe and build simple 3-D shapes, including making nets
compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Geometry: Position and Direction
describe positions on the full coordinate grid (all four quadrants)
draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Statistics
interpret and construct pie charts and line graphs and use these to solve problems
calculate and interpret the mean as an average.