**Maths Progression of Knowledge and Skills**

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|  | **Year 1** | **Year 2** |
|  | **KS1** | |
| **Number and Place Value** | * I can count in ones to or back from 100 from any given number * I can count, read and write numbers to 100 in numerals * I can count in 2s, 5s, and 10s * I can say one more or one less than any number up to 100 * I can write 1-20 in words and numerals * I can identify and represent numbers using objects and pictorial representations | * I can count in steps of 2, 3, 5 and 10 from any number forwards and backwards * I can compare numbers from 0 up to 100 and use the < > signs correctly * I can read and write numbers from 0 to 100 in numerals and words * I know which digit is the tens and ones in a two digit number and partition a 2 digit number correctly into different combination * I can identify and estimate numbers using different representations, including a number line * I can use place value and number facts to solve problems (e.g. which two multiples of 10 make 100) |
| **Addition and Subtraction** | * I know my number bonds for any number up to 20 and the related subtraction fact * I can add and subtract one-digit and two digit numbers to 20, including zero * I can solve one step problems for addition using pictures and objects to help me * I can solve one step subtraction problems for subtraction using pictures and objects to help me * I know what these signs mean +, - and = and can use them correctly | * I can recall and use addition and subtraction facts to 20 * I can add and subtract two digit numbers to a one digit number using objects and pictures to help me * I can add and subtract numbers mentally * I can add and subtract numbers using concrete objects and pictorial representations * I can use the inverse of subtraction is addition and can do this to check my answers or solve missing number problems * I can solve problems with addition and subtraction * I know that addition and multiplication can be done in any order * I can use estimation to check my answers are reasonable |
| **Multiplication and Division** | * I can solve problems involving multiplication and division, by calculating the answer using objects, pictures and arrays to help me | * I know the multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers * I can use the x, ÷ and = sign to solve multiplication and division calculations * I can solve problems involving multiplication and division, using arrays, repeated addition, mental methods, and multiplication and division facts |
| **Fractions** | * I can find and name a quarter of an object, shape or amount * I can find and name a half of an object, shape or amount | * I can find, name and write fractions one third, one quarter, two quarters and three quarters * I can find a quarter, a half, two quarters and a third of a length, shapes, set of objects or quantity * I know that 2/4 is the same as a ½ |
| **Measurement** | * I can compare, describe and solve practical problems for length, weight, capacity and time * I can measure and begin to record lengths, heights, weight, capacity * I know the value of all coins up to £1 and notes up £50 * I know the days of the week and months of the year in order * I can tell the time to half an hour and hour * I can order events in time order (chronological order) | * I can choose and use a ruler to measure height and length in mm and cm * I can use kilograms and grams to measure weight and litres and millilitres to measure capacity * I can read scales in divisions of 1s, 2s, 5s and 10 * I can use °C to measure temperature, using thermometers * I can compare and order lengths, mass, volume/capacity and record the results using >, < and = signs * I can recognise and use symbols for pounds (£) and pence (p); combine amounts to make an amount * I can find different combinations of coins that equal the same amounts of money * I can tell and write the time to the nearest fifteen minutes, including quarter past/to the hour and draw the hands on a clock face to show these times * I know the number of minutes in an hour and the number of hours in a day |
| **Geometry** | * I can recognise 2D shapes, rectangle, square, circle, triangle * I can recognise 3D shapes cube, cuboid, pyramid, cone and sphere * I can move and describe a whole, half and quarter turn | * I can compare and sort 2D and 3D shapes * I can name and describe the properties of 2-D shapes, including the number of sides and line of symmetry * I can name and describe the properties of 3-D shapes, including the number of edges, vertices and faces * I can order and arrange combinations of mathematical objects in patterns and sequences * I can use mathematical words to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn * I can turn right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) |
| **Statistics** |  | * I can collect and present data in simple pictograms, tally charts, block graphs and tables * I can ask and answer simple questions that are presented |

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|  | **Year 3** | **Year 4** |
|  | **LKS2** | |
| **Number and Place Value** | * I can count in multiples of 4, 8, 50 and 100 * I can order numbers up to 1000 * I can write numbers up to 1000 in words and numerals * I can find 10 or 100 more or less than a given number * I can solve missing number patterns problems * I can identify, represent and estimate numbers using different representations * I can partition a three digit number | * I can count in multiples of 6, 7, 9 * I can count in steps of 25 and 1000 from any number * I can order and compare numbers beyond 1000 * I can find 1000 more or less than a given number * I can count backwards through zero to include negative numbers * I can partition a four digit number * I can read Roman numerals to 100 * I can round any number to the nearest 10, 100 or 1000 * I can solve missing number problems using my knowledge of ordering numbers, more or less than and counting in multiples |
| **Addition and Subtraction** | * I can add a one digit number to a three digit number mentally * I can add a tens number to a three digit number mentally * I can add a multiple of 100 to a three digit number mentally * I can use a written method of addition and subtraction to add and subtract numbers including 3 digit numbers * I can use the inverse to a calculation to check my answer is correct * I can use my knowledge of number facts to solve problems including missing number problems | * I can use column addition to solve a sum including four digit numbers * I can use the column (decomposition) written method to solve subtraction with numbers up to 4 digit * I can estimate and use inverse operations to check answers to a calculation * I can solve two step word problems deciding which operations to use and why |
| **Multiplication and Division** | * I know and use multiplication and division facts for the 3, 4 and 8 multiplication tables * I can write and calculate number sentences for multiplication and division using the multiplication tables that I know * I can multiply and divide by two-digit numbers and one-digit numbers, using mental and written methods to help me * I can solve problems, including missing number problems, involving multiplication and division | * I can recall multiplication and division facts for multiplication tables up to 12 × 12 * I can use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1 * I can multiplying together three numbers * I can recognise and use factor pairs in mental calculations * I can multiply two-digit and three-digit numbers by a one-digit number using a written method * I can solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit |
| **Fractions** | * I can count up and down in tenths and know that tenths come from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 * I can find and write fractions of a set of objects: unit fractions and non-unit fractions with small denominators * I can recognise and show, using diagrams, equivalent fractions with small denominators * I can recognise and show, using diagrams, equivalent fractions with small denominators * I can add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7) * I can compare and order unit fractions and fractions with the same denominator * I can solve fraction based problems | * I can recognise and show, using diagrams, families of common equivalent fractions * I can count up and down in hundredths * I know that hundredths arise when dividing an object by one hundred and dividing tenths by ten * I can solve problems involving increasingly harder fractions to calculate quantities * I can use fractions to divide quantities, including non-unit fractions where the answer is a whole number * I can add and subtract fractions with the same denominator * I can recognise and write decimal equivalents of any number of tenths or hundredths * I can write decimal equivalents to ¼, ½ , ¾ * I know what happens when I divide a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths * I can round decimals with one decimal place to the nearest whole number * I can compare numbers with the same number of decimal places up to two decimal places |
| **Measure** | * I can measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) * I can measure length, mass and volume/capacity * I know how to measure the perimeter of a 2D shape * I can add and subtract amounts of money to give change, using both £ and p in practical contexts * I can tell and write the time from an analogue clock, 12-hour and 24-hour clocks * I can tell and write the time from an analogue clock, including using Roman numerals * I can estimate and read time with accuracy to the nearest minute * I can record and compare time in terms of seconds, minutes and hours * I can compare durations of events * I can use words such as o’clock, a.m./p.m., morning, afternoon, noon and midnight correctly * I know the number of seconds in a minute and the number of days in each month, year and leap year * I can add and subtract length, mass and volume/capacity | * I can convert kilometres to metres and hours to minutes * I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres * I can find the area of rectilinear shapes by counting squares * I can estimate different measures, including money in pounds and pence * I can read, write and convert time between analogue and digital 12hour and 24 hour clock * I can estimate, compare and calculate different measures, including money in pounds and pence * I can calculate different measures, including money in pounds and pence |
| **Geometry** | * I can draw 2-D shapes and make 3-D shapes using modelling materials * I can recognise 3-D shapes in different orientations and describe them * I can name the right angles in 2D shapes * I know that two right angles make a half-turn, three make three quarters of a turn and four a complete turn * I can say which are horizontal and vertical lines and pairs of perpendicular and parallel lines | * I can compare and classify geometric shapes, including quadrilaterals and triangles**,** based on their properties and sizes * I can find acute and obtuse angles * I can compare and order angles up to two right angles by size * I can find lines of symmetry in 2-D shapes presented in different orientations * I can complete a simple symmetric figure with respect to a specific line of symmetry * I can describe movements between positions as a translation * I can describe a position as a coordinate * I can plot specified points and draw sides to complete a given polygon |
| **Statistics** | * I can interpret and present data using bar charts, pictograms and tables * I can solve one and two step questions using information presented in charts, pictograms and tables | * I can interpret and present data using charts and graphs * I can solve problems using information presented in different graphical ways |

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|  | **Year 5** | **Year 6** |
|  | **UKS2** | |
| **Number and Place Value** | * I can read and write numbers to at least 1000000 * I can order numbers up to at least 1000000 * I know the value of each digit of numbers up to 1000000 * I can count in steps of powers of 10 for any given number up to 1000000 * I can understand negative numbers in context and count forwards and backwards with positive and negative whole numbers. Including through zero * I can round any number to 10, 100, 1000, 10000 or 100000 * I can solve missing number problems involving ordering, partitioning and negative numbers * I can read Roman numerals to 1000 and recognise years written in Roman numerals | * I can round any whole number * I can read and write numbers up to 10 000 000 and determine the value of each digit * I can order and compare numbers up to 10 000 000 * I can use negative numbers in context, and calculate intervals across zero * I can solve number and practical problems that involve ordering numbers, missing number problems and negative numbers |
| **Addition and Subtraction** | * I can add whole 4 digit and 5 digit numbers using a written method * I can subtract whole 4 digit and 5 digit numbers using a written method * I can add and subtract mentally using larger numbers * I can use rounding to check answers are reasonable * I can solve multi-step word problems in context, deciding on the operation to use and why | * I can add and subtract multi-digit numbers up to 4 digits by a two-digit whole number using the formal written methods * I can multiply and divide multi-digit numbers up to 4 digits by a two digit whole number using the formal written methods of long multiplication and division * I can interpret remainders as whole numbers, decimal, or by rounding within a context * I can complete mental calculations, with mixed operations and large numbers * I know common factors, common multiples and prime numbers * I can use my knowledge of the order of operations to carry out calculations involving the four operations * I can use formal methods to solve multistep word problems, choosing the correct operations to use and why * I can use estimation to check answers to calculations |
| **Multiplication and Division** | * I can identify multiples and factors, including finding all factor pairs of number and common factors of two numbers * I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers * I know whether a number up to 100 is prime and recall prime numbers up to 19 * I can multiply numbers up to 4 digits by a one- or two-digit number using a written method, including long multiplication for two-digit numbers * I can multiply and divide numbers mentally using the facts that I already know * I can divide numbers up to 4 digits by a one-digit number using a written method of short division * I can understand remainders depending on the context I am given * I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 * I can recognise and use square numbers and cube numbers, and use the sign for squared (2) and cubed (3) numbers * I can solve problems multi-step problems involving addition, subtraction, multiplication and division |
| **Fractions, Decimals and Percentages** | * I can solve problems involving multiplication and division, including scaling by simple fractions * I can compare and order fractions whose denominators are all multiples of the same number * I can name and write equivalent fractions of a given fraction, including tenths and hundredths * I can 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 1/5] * I can add and subtract fractions with the same denominator and denominators that are multiples of the same number * I can multiply proper fractions and mixed numbers by whole numbers, with materials and diagrams to help me * I can read and write decimal numbers as fractions [for example, 0.71 = 71/100] * I can use thousandths and relate them to tenths, hundredths and decimal equivalents * I can round decimals with two decimal places to the nearest whole number and to one decimal place * I can read, write, order and compare numbers with up to three decimal places * I can solve problems involving number up to three decimal places * I know what this symbol means % * I know that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal * I can solve problems which require knowing percentage and decimal equivalents of ½ ,1/4 ,1/5 , 2/5 ,4/5 and those fractions with a denominator of a multiple of 10 or 25 | * I can use common factors to simplify fractions; use common multiples to express fractions in the same denomination * I can compare and order fractions, including fractions greater than 1 * I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions * I can multiply simple pairs of proper fractions, writing the answer in its simplest form * I can divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6 ] * I can associate a fraction with division and calculate decimal fraction equivalent for a simple fraction * I can identify the value of each digit in numbers given to three decimal places * I can multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places * I can multiply one-digit numbers with up to two decimal places by whole numbers * I can use a written method of division in cases where the answer has up to two decimal places * I can recall and use equivalences between simple fractions, decimals and percentages * I can solve problems which require answers to be rounded to specified degrees of accuracy |
| **Measure** | * I can convert between different units of measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) * I know how to use approximate equivalences between metric units and common imperial units such as inches, pounds and pints * I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres * I can calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) * I can estimate the area of irregular shapes * I can estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] * I can solve problems involving converting between units of time * I can use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling | * I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places * I can 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 * I can convert between miles and kilometres * I can recognise that shapes with the same areas can have different perimeters and vice versa * I can recognise when it is possible to use formulae for area and volume of shapes * I can calculate the area of parallelograms and triangles * I can calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and extending into other units (mm3) (m3) |
| **Geometry** | * I can name 3-D shapes, including cubes and other cuboids, from 2-D representations * I know angles are measured in degrees * I can estimate and compare acute, obtuse and reflex angles * I can draw given angles, and measure them in degrees * I can identify angles at a point and one whole turn (total 360°) and angles at a point on a straight line and ½ turn (180°) * I can use the properties of rectangles to deduce related facts and find missing lengths and angles * I can distinguish between regular and irregular polygons * I can describe and represent the position of a shape following a reflection or translation | * I can draw 2-D shapes using given dimensions and angles * I can describe simple 3D shapes * I can recognise, describe and build simple 3-D shapes, including making nets * I can compare and classify geometric shapes based on their properties * I can compare and classify geometric shapes based on their sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons * I can draw and name parts of circles, including radius, diameter and circumference * I know that the diameter is twice the radius * I can recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles * I can use mathematical reasoning to find missing angles * I can describe positions on a full coordinates grid * I can draw and translate simple 2D shapes on the coordinate plane, and reflect them in the axes |
| **Statistics** | * I can read and interpret information in tables * I can solve comparison, sum and difference problems using information presented in a line graph | * I can interpret and construct pie charts and line graphs and use these to solve problems * I can calculate and interpret the mean |
| **Ratio and Proportion** |  | * I can solve problems involving the relative sizes of two quantities where missing values can be found by using the multiplication and division facts I know * I can solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] * I can solve problems involving similar shapes where the scale factor is known or can be found * I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples |
| **Algebra** | * I can express missing number problems algebraically * I can use simple formulae * I can generate and describe linear number sequences * I can find pairs of numbers that satisfy an equation with two unknowns * I can enumerate possibilities of combinations of two variables |