Maths Objectives

Year 1

Number and place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measures	Geometry
Read and write numbers from 1 to 20 in numerals and words.	Represent and use number bonds within 20	Count in multiples of 2s, 5s and 10s.	Recognise, find and name a half as one of two equal parts of an object or shape.	Compare, describe and solve practical problems for: - lengths and heights [long/short, longer/shorter, tall/short, double/half] - mass/weight (heavy/light, heavier than, lighter than] - capacity and volume [full/empty, more than, less than, half, half full, quarter] - time [for example, quicker, slower, earlier, later]	Recognise and name common 2-D and 3-D shapes, including: - 2-D shapes [rectangles (including squares), circles and triangles] - 3-D shapes [cuboids (including cubes), pyramids and spheres].
Count, read and write numbers to 100 in numerals.	Represent and use related subtraction facts within 20	Solve one-step problems involving multiplication, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Recognise, find and name a half as one of two equal parts of a quantity.		
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.					
Given a number, identify one more and one less	Add and subtract one-digit and two-digit numbers to 20, including zero	Solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Recognise, find and name a quarter as one of four equal parts of an object or shape.	Measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time (hours, minutes, seconds)	Describe position, direction and movement, including whole, half, quarter and three-quarter turns.
Count, read and write numbers to 100 in numerals.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs		Recognise, find and name a quarter as one of four equal parts of a quantity.	Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	
Use the language of: equal to, more than, less than (fewer), most, least. (see calculation guidelines for full vocab list.)	Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as 7 + □ = 9			Recognise and know the value of different denominations of coins and notes.	
Identify and represent numbers using objects and pictorial representations including the number line				Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	
Count in 2s, 5s and 10s.				Recognise and use language relating to dates, including days of the week, weeks, months and years.	

Maths Objectives

Year 2

Number and place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measures	Geometry	Statistics
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * a two-digit number and ones * a two-digit number and tens * two two-digit numbers adding three one-digit numbers	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	Recognise, find, name and write fractions ⅓, ¼, ²/₄ and ¾ of a length, shape, set of objects or quantity	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
Compare and order numbers from 0 up to 100; use <, > and = signs	Derive and use related facts up to 100	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.	Write simple fractions e.g. ½ of 6 = 3.	Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
Identify, represent and estimate numbers using different representations, including the number line	Recall and use addition and subtraction facts to 20 fluently. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Use known multiplication facts to check the accuracy of calculations. (CM objective-not NC)	Recognise the equivalence of two quarters and one half.	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Find different combinations of coins that equal the same amounts of money	Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Compare and sort common 2-D and 3-D shapes and everyday objects	Ask and answer questions about totalling and comparing categorical data.
Read and write numbers to at least 100 in numerals and in words	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.			Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time.	Order and arrange combinations of mathematical objects in patterns and sequences	
Recognise the place value of each digit in a two-digit number (tens, ones)	Solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.		Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	
Use place value and number facts to solve problems				Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times		

Maths Objectives

Year 3

Number and place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measures	Geometry	Statistics
Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Add and subtract numbers mentally, including: - a three-digit number and ones - a three digit number and tens	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Interpret and present data using bar charts, pictograms and tables
Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	- a three digit number and hundreds	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Measure the perimeter of simple 2-D shapes	Recognise angles as a property of shape or a description of a turn	Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.
Compare and order numbers up to 1000	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction		Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	Add and subtract amounts of money to give change, using both £ and p in practical contexts	Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	
Identify, represent and estimate numbers using different representations	Estimate the answer to a calculation and use inverse operations to check answers	Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Recognise and show, using diagrams, equivalent fractions with small denominators	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks		
Read and write numbers up to 1000 in numerals and in words	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Recognise and use the inverse relationship between multiplication and division and use this to check calculations and solve missing number problems.	Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	
Solve number problems and practical problems involving these ideas.			Compare and order unit fractions with the same denominator	Know the number of seconds in a minute and the number of days in each month, year and leap year		
			Solve problems that involve all of the above.	Compare durations of events [for example to calculate the time taken by particular events or tasks].		

Maths Objectives

Year 4

Number and place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measures	Geometry Properties of shape	Statistics
Count in multiples of 6, 7, 9, 25 and 1000	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Recall multiplication and division facts for multiplication tables up to 12 × 12	Recognise and show, using diagrams, families of common equivalent fractions	Convert between different units of measure [for example, kilometre to metre; hour to minute]	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
Find 1000 more or less than a given number		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	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Identify acute and obtuse angles and compare and order angles up to two right angles by size	
Count backwards through zero to include negative numbers						
Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	Estimate and use inverse operations to check answers to a calculation	Recognise and use factor pairs and commutativity in mental calculations	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	Find the area of rectilinear shapes by counting squares	Identify lines of symmetry in 2-D shapes presented in different orientations	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Order and compare numbers beyond 1000	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and when	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout		Estimate, compare and calculate different measures, including money in pounds and pence	Complete a simple symmetric figure with respect to a specific line of symmetry.	
			Add and subtract fractions with the same denominator			
Identify, represent and estimate numbers using different representations		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.	Recognise and write decimal equivalents of any number of tenths or hundredths	Read, write and convert time between analogue and digital 12- and 24-hour clocks	Geometry Position and Direction	
Round any number to the nearest 10, 100 or 1000			Recognise and write decimal equivalents to ¼, ½, ¾		Describe positions on a 2-D grid as coordinates in the first quadrant	
				Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.		
Solve number and practical problems that involve all of the above and with increasingly large positive numbers			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		Describe movements between positions as translations of a given unit to the left/right and up/down	
Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value		Recognise and use the inverse relationship between multiplication and division and use this to check calculations and solve missing number problems.	Round decimals with one decimal place to the nearest whole number		Plot specified points and draw sides to complete a given polygon.	
			Compare numbers with the same number of decimal places up to two decimal places			

Maths Objectives

Year 5

Number and place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measures	Geometry	Statistics
Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers	Compare and order fractions whose denominators are all multiples of the same number	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Solve comparison, sum and difference problems using information presented in a line graph
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Add and subtract numbers mentally with increasingly large numbers	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	Complete, read and interpret information in tables, including timetables.
Interpret and use negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Establish whether a number up to 100 is prime and recall prime numbers up to 19	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, $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}= 1\frac{1}{5}$]	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Draw given angles, and measure them in degrees (°)	
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	Add and subtract fractions with the same denominator and denominators that are multiples of the same number	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	Identify: -Angles at a point and one whole turn (total 360°) -Angles at a point on a straight line and ½ a turn (total 180°) -Other multiples of 90°	
Solve number problems and practical problems that involve all of the above		Multiply and divide numbers mentally, drawing upon known facts	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	
Read Roman numerals to 1000 (M) and recognise		Divide numbers up to 4 digits by a one-digit number using the formal written	Read and write decimal numbers as fractions [for example, 0.71 =$\frac{71}{100}$]	Solve problems involving converting between units of time		

Maths Objectives

years written in Roman numerals		method of short division and interpret remainders appropriately for the context	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.		
		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	Round decimals with two decimal places to the nearest whole number and to one decimal place			
		Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	Read, write, order and compare numbers with up to three decimal places		Use the properties of rectangles to deduce related facts and find missing lengths and angles	
		Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	Solve problems involving number up to three decimal places		Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	
		Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	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 involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}$ and those fractions with a denominator of a multiple of 10 or 25.			

Maths Objectives

Year 6

Number and place Value	Addition, Subtraction Multiplication and Division	Algebra	Fractions	Measures	Geometry	Statistics	Ratio and Proportion
Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Use simple formulae	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Draw 2-D shapes using given dimensions and angles	Interpret and construct pie charts and line graphs and use these to solve problems	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
Round any whole number to a required degree of accuracy	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	Generate and describe linear number sequences	Compare and order fractions, including fractions >1

Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. | 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 | Recognise, describe and build simple 3-D shapes including making nets | Calculate and interpret the mean as an average | Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and use percentages for comparison |
| Use negative numbers in context, and calculate intervals across zero | 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 | Express missing number problems algebraically | Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions | Convert between miles and kilometres | Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons | | Solve problems involving similar shapes where the scale factor is known or can be found |
| Solve number problems and practical problems that involve all of the above. | Perform mental calculations, including with mixed operations and large numbers | Find pairs of numbers that satisfy number sentences involving two unknowns | Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼ × ½ = ⅛] | Recognise that shapes with the same areas can have different perimeters and vice versa | Illustrate and name parts of circle, including radius, diameter and circumference and know that the diameter is twice the radius | | Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples |

	Identify common factors, common multiples and prime numbers	Enumerate possibilities of combinations of two variables	Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]	Recognise when it is possible to use the formulae for area and volume of shapes	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.		
	Use their knowledge of the order of operations to carry out calculations involving the four operations		Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]	Calculate the area of parallelograms and triangles	Describe positions on the full coordinate grid (all four quadrants)		
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why		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	Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3]	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.		
	Solve problems involving addition, subtraction, multiplication and division		Multiply one-digit numbers with up to two decimal places by whole numbers				
	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.		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				