

	YEAR 1 (x13)	YEAR 2 (x23)	YEAR 3 (x25)	YEAR 4 (x28)	YEAR 5 (x30)	YEAR 6 (x39)
Number and Place Value	Count to and across 100, forwards and backwards, beginning with 0 or one, or from any given number	Compare and order numbers from 0 up to 100	Count from 0 in multiples of 4, 8, 50 and 100	Count in multiples of 6, 7, 9, 25 and 1000	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
	Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	Use place value and number facts to solve problems	Work out if a given number is greater or less than 10 or 100	Order and compare numbers beyond 1000	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero	Round any whole number to a required degree of accuracy
	Given a number, identify one more and one less	Use < > and = signs correctly	Recognise the place value of each digit in a 3-digit number (hundreds, tens, and ones)	Count backwards through 0 to include negative numbers	Round any number to the nearest 10, 100 or 1000	Use negative numbers in context, and calculate intervals across 0
Addition and Subtraction	Represent and use number bonds and related subtraction facts within 20	Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying an increasing knowledge of mental and written methods	Add and subtract numbers mentally, including: a 3-digit number and ones; a 3-digit number and tens; a 3-digit number and hundreds	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	Add and subtract 1-digit and 2-digit numbers to 20, including 0	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 10	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Solve addition and subtraction two-step problems in context, deciding which operations and methods to use and why	Add and subtract numbers mentally with increasingly large numbers (e.g. 12 462 – 2300 = 10 162)	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
		Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a 2-digit number and ones; a 2-digit number and tens; two 2-digit numbers; adding three 1-digit numbers			Solve problems involving numbers up to three decimal places	
Multiplication and Division	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Recall multiplication and division facts for multiplication tables up to 12 x 12	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two number	Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal written method of long multiplication
		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs	Write and calculate mathematical statements for multiplication tables that they know, including 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods	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	Multiply numbers up to four digits by a 1 or 2-digit number using a formal written method, including long multiplication for 2-digit numbers	Divide numbers up to four digits by a 2-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
		Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	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 use factor pairs and commutativity in mental calculations	Multiply and divide numbers mentally drawing upon known facts	Divide numbers up to four digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
		Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts		Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout	Divide numbers up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context	Use their knowledge of the order of operations to carry out calculations involving the four operations
				Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	Solve problems involving addition, subtraction, multiplication and division
					Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	Multiply 1-digit numbers with up to two decimal places by whole numbers
					Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	
Fractions and Decimals	Recognise, find and name a half as one of two equal parts of an object, shape or quantity	Recognise, find, name and write fractions 1/3, 1/4, 1/2 and 3/4 of length, shape, set of objects or quantity	Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing 1-digit numbers or quantities by ten	Recognise and show, using diagrams, families of common equivalent fractions	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Use factors to simplify fractions; use common multiples to express fractions in the same denominator
	Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	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	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 and 1/5)	Compare and order fractions, including fractions > 1
			Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and denominators that are multiples of the same number	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
			Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and write decimal equivalents of any number of tenths or hundredths	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Multiply simple pairs of proper fractions, writing the answer in its simplest form, for example, 1/4 x 1/2 = 1/8
			Add and subtract fractions with the same denominator within one whole, for example 5/7 + 1/7 = 6/7	Recognise and write decimal equivalents to 1/4, 1/2, 3/4	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	Divide proper fractions by whole numbers, for example, 1/3 ÷ 2 = 1/6
			Compare and order unit fractions, and fractions with the same denominators	Round decimals with one decimal place to the nearest whole number	Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25	Multiply 1-digit numbers with up to two decimal places by whole numbers
			Solve problems that involve all of the above	Compare numbers with the same number of decimal places up to two decimal place		Use equivalences between simple fractions, decimals and percentages, including in different contexts
			Solve simple measure and money problems involving fractions and decimals to two decimal places			
Ratio and 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
Algebra						Generate and describe linear number sequences
						Express missing number problems algebraically
						Find pairs of numbers that satisfy an equation with two unknowns
Measurement	Compare, describe and solve practical problems for measurement and begin to record the following: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]; mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, full half, quarter]; time [for example, quicker, slower, earlier, later]	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	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Convert between different units of measure [for example, kilometre to metre; hour to minute]	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Add and subtract amounts of money to give change, using both £ and p in practical contexts	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	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 up to three decimal places
			Tell and write the time from an analogue clock, and 12 and 24-hour clock	Estimate, compare and calculate different measures, including money in pounds and pence	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) and estimate the area of irregular shapes	Recognise that shapes with the same area can have different perimeters and vice versa
Geometry	Recognise and name common 2-D shapes, including: rectangles (including squares), circles and triangles	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Draw 2-D shapes using given dimensions and angles
	Recognise and name common 3-D shapes, including: cuboids (including cubes), pyramids and spheres	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	Recognise angles as a property of shape or a description of a turn	Identify acute and obtuse angles and compare and order angles up to two right angles by size	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	Recognise, describe and build simple 3-D shapes, including making nets
	Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]	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 lines of symmetry in 2-D shapes presented in different orientations	Draw given angles, and measure them in degrees (°)	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
		Compare and sort common 2-D and 3-D shapes and everyday objects	Identify horizontal and vertical lines, and pairs of perpendicular and parallel lines	Complete a simple symmetric figure with respect to a specific line of symmetry	Identify: angles at a point and one whole turn (total 360°); angles at a point on a straight line and 1/2 turn (180°); other multiples of 90 degrees	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
		Order and arrange combinations of mathematical objects in patterns and sequences			Use the properties of rectangles to deduce related facts and find missing lengths and angle	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
Statistics	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	Interpret and present data using bar charts, pictograms and tables	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 a line graph	Interpret and construct pie charts and line graphs and use these to solve problems	
	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	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	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Complete, read and interpret information in tables, including timetables	Calculate and interpret the mean as an average	
Working at greater depth within the expected standard (GDS)	<p>The following criteria are the same for pupils in all year groups.</p> <p>When working mathematically, the pupil can:</p> <ul style="list-style-type: none"> <li>Solve all of the 'Mastery at Greater Depth' questions independently</li> <li>Identify and obtain necessary information to carry through a task and solve mathematical problems</li> <li>Check results, considering whether these are reasonable</li> <li>Solve word problems and investigations from a range of contexts</li> <li>Show understanding of situations by describing them mathematically using symbols, words and diagrams</li> <li>Draw simple conclusions of their own and give an explanation of their reasoning</li> <li>Develop own strategies for solving problems</li> <li>Use their own strategies within mathematics and in applying mathematics to practical context</li> <li>Present information and results in a clear and organised way</li> <li>Make generalisations and prove them</li> <li>Search for a solution by trying out ideas of their own</li> </ul>					