King Offa Primary Academy

Knowledge, Opportunities, Pride, Achievement

Maths Progression

PLACE VALUE			
Area of learning	**Year 1**	**Year 2**	**Year 3**
Counting	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.	4, 8, 50 and 100; find 10 or 100 more or less than a given number.
	count, read and write numbers to 100 in numerals identify one more and one less than numbers	read scales* in divisions of ones, twos, fives and tens	
Comparing numbers	use the language of: equal to, more than, less than (fewer), most, least	Compare and order numbers from 0 up to 100; use and = signs.	Compare and order numbers up to 1000.
Identifying, representing and estimating numbers	identify and represent numbers using objects and pictorial representations including the number line	Identify, represent and estimate numbers using different representations, including the number line.	Identify, represent and estimate numbers using different representations
Reading and writing numbers	read and write numbers from 1 to 20 in numerals and words.	Read and write numbers to at least 100 in numerals and in words.	read and write numbers up to 1000 in numerals and in words
Understanding place value		Recognise the place value of each digit in a two-digit number (tens, ones).	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).
		Use place value and number facts to solve problems. partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus	Solve number problems and practical problems involving these ideas.

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ADDITION AND SUBTRACTION			
Area of learning	**Year 1**	**Year 2**	**Year 3**
Number bonds	represent and use number bonds and related subtraction facts within 20	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.	
		recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10 then 17 + 3 = 20; if 7 – 3 = 4 then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)	
Mental calculation	add and subtract one digit and two-digit numbers to 20, including zero	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	add and subtract numbers mentally, including: • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds
	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	
		Add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17)	
Inverse operations, estimating and checking answers		Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Estimate the answer to a calculation and use inverse operations to check answers.
Written methods	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs		Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.
Problem solving	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

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MULTIPLICATION AND DIVISION			
	Year 1	**Year 2**	**Year 3**
Multiplication and number facts	count in multiples of twos, fives and tens (copied from Number and Place Value)	RECAP: Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	RECAP: Count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value)
		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
Mental calculation		Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	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 (appears also in Written Methods)
Written methods		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	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 (appears also in Mental Methods)
Problem solving	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.	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	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
Inverse operations, estimating and checking answers			RECAP: Estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction)

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FRACTIONS			
Area of learning	**Year 1**	**Year 2**	**Year 3**
Counting in fractional steps		Count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)	Count up and down in tenths
Recognising fractions	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, 2/4 and 3/4 of a length, shape, set of objects or quantity	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
			recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.
			recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
Comparing fractions/decimals			compare and order unit fractions, and fractions with the same denominators
Equivalence (including fractions, decimals and percentages)	recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	write simple fractions e.g. 1 / 2 of 6 = 3 and recognise the equivalence of 2 / 4 and 1 / 2.	recognise and show, using diagrams, equivalent fractions with small denominators
			add and subtract fractions with the same denominator within one whole (e.g. 5 / 7 + 1 / 7 = 6 / 7)
Problem solving			solve problems that involve all of the above

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MEASUREMENT			
Area of learning	**Year 1**	**Year 2**	**Year 3**
Comparing and estimating	Compare, describe and solve practical problems for: • lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] • mass/weight [e.g. heavy/light, heavier than, lighter than] • capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] • time [e.g. quicker, slower, earlier, later]	Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Compare durations of events, for example to calculate the time taken by particular events or tasks
	Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Compare and sequence intervals of time	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)
Measuring and calculating	Measure and begin to record the following: • lengths and heights • mass/weight • capacity and volume • time (hours, minutes, seconds)	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)
	Recognise and know the value of different denominations of coins and notes	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	Measure the perimeter of simple 2-D shapes
		Find different combinations of coins that equal the same amounts of money • use different coins to make the same amount	Add and subtract amounts of money to give change, using both £ and p in practical contexts
		Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	
Telling the time	recognise and use language relating to dates, including days of the week, weeks, months and years	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.	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight
		read the time on a clock to the nearest 15 minutes	

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			(appears also in Comparing and Estimating)
Converting		Know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)	Know the number of seconds in a minute and the number of days in each month, year and leap year

GEOMETERY			
Area of learning	**Year 1**	**Year 2**	**Year 3**
Identifying shapes and their properties	recognise and name common 2-D and 3-D shapes, including: • 2-D shapes [e.g. rectangles (including squares), circles and triangles] • 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	
		Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	
		identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].	
Drawing and constructing			Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.
Comparing and classifying		Compare and sort common 2-D and 3-D shapes and everyday objects name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.	
Position and direction	describe position, direction and movement, including whole, half, quarter and three quarter turns.	order and arrange combinations of mathematical objects in patterns and sequences	
		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 anticlockwise).	
Angles			Recognise angles as a property of shape or a description of a turn. 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 horizontal and vertical lines and pairs of perpendicular and parallel lines.

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STATISTICS			
Area of learning	**Year 1**	**Year 2**	**Year 3**
Interpreting, constructing and presenting data		interpret and construct simple pictograms, tally charts, block diagrams and simple tables	Interpret and present data using bar charts, pictograms and tables
		ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	
		ask and answer questions about totalling and comparing categorical data	
Solving problems			Solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.