Padiham Green Church of England Primary School   Jesus said, "Come, follow me." (Matthew 4:19)

Progression Map – Mathematics

Intent
Our Maths curriculum is creative and engaging and embraces the Mastery approach to teaching mathematics. We incorporate sustained levels of challenge through varied and high quality activities with a focus on fluency, reasoning and problem-solving. Pupils are required to explore Maths in depth, using mathematical vocabulary to reason and explain their workings. A wide range of mathematical resources are used and pupils are taught to show their workings in a concrete fashion, before establishing ways of pictorially and formally representing their understanding. They need to be able to make connections across the areas of Maths and use their knowledge in other subjects. We want our children to know the purpose behind their learning and to apply their knowledge to their everyday lives.

Implementation							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number – number and place value							
Counting	Subitise (recognise quantities without counting) up to 5. Verbally count beyond 20, recognising the pattern of	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 or backward	Count from 0 in multiples of 4, 8, 50 and 100; Find 10 or 100 more or less than a given number	Count backwards through zero to include negative numbers Count in multiples of 6, 7, 9, 25 and 1000	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers,	Use negative numbers in context, and calculate intervals across zero

	the counting system.	Count, read and write numbers to 100 in numerals; Count in multiples of twos, fives and tens given a number, identify one more and one less			Find 1000 more or less than a given number	including through zero Count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	
Place Value	Have a deep understanding of number to 10, including the composition of each number.	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 Recognise the place value of each digit in a two-digit number (tens, ones)	Read and write numbers up to 1000 in numerals and in words Recognise the place value of each digit in a three digit number (hundreds, tens, ones)	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Identify the value of each digit to three decimal places and multiply and

							divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
Comparing and ordering	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	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	Order and compare numbers beyond 1000 Compare numbers with the same number of decimal places up to two decimal places	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 000000 and determine the value of each digit
Rounding, representation and estimation		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	Identify, represent and estimate numbers using different representation Round any number to the	Round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000	Round any whole number to a required degree of accuracy

					nearest 10, 100 or 1 000 Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	
Multiplying by powers of 10					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 units, tenths and hundredths		
Roman numerals				Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	

				24- hour clocks	include the concept of zero and place value.		
Solving number problems			Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of the above and with increasingly large positive numbers	Solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of the above
Number – addition and subtraction							
Understanding addition and subtraction	Explore the composition of numbers to 10.						
Addition and subtraction facts	Compare quantities up to 10 in different context Automatically recall (without reference to rhymes, counting or	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				

	other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.						
Mental methods	Automatically recall number bonds for numbers 0–5 and some to 10.	Add and subtract one digit and two-digit numbers to 20, including zero Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs (appears also in Written Methods)	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		Add and subtract numbers mentally with increasingly large numbers	Perform mental calculations, including with mixed operations and large numbers Use their knowledge of the order of operations to carry out calculations involving the four operations

Written methods Estimating and checking calculations		Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs (appears also in Mental Calculation)	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction Estimate the answer to a calculation and use inverse operations to check answers	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Estimate and use inverse operations to check answers to a calculation	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
Order of operations Solving addition and		Solve one-step problems that involve addition and	Solve problems with addition and subtraction: *	Solve problems, including missing	Solve addition and subtraction two-step	Solve addition and subtraction multi-step	Solve addition and subtraction multi-step

subtraction problems including those with missing numbers		subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = * – 9	using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	number problems, using number facts, place value, and more complex addition and subtraction	problems in contexts, deciding which operations and methods to use and why	problems in contexts, deciding which operations and methods to use and why	problems in contexts, deciding which operations and methods to use and why
Number – multiplication and division							

Multiplication and division facts Properties of number		Count in multiples of twos, fives and tens (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 Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	Count from 0 in multiples of 4, 8, 50 and 100 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 × 12 Recognise and use factor pairs and commutativity in mental calculations Count in multiples of 6, 7, 9, 25 and 1 000	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers	Identify common factors, common multiples and prime numbers use common factors to simplify fractions; use common multiples to express fractions in the same denomination Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm 3) and cubic

						Establish whether a number up to 100 is prime and recall prime numbers up to 19 Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	metres (m 3), and extending to other units such as mm 3 and km 3
Mental methods Written methods			Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Calculate mathematical statements for	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit	Multiply two-digit and three-digit numbers by a one digit number using formal written layout Use place value, known and derived facts to	Multiply and divide numbers mentally drawing upon known facts Multiply and divide whole numbers and those involving decimals by	Perform mental calculations, including with mixed operations and large numbers Associate a fraction with division and calculate

			multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	numbers times onedigit numbers, using mental and progressing to formal written methods	multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	10, 100 and 1000 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 Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3 /8) 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 short division

							where appropriate for the context
							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
							Use written division methods in cases where

							the answer has up to two decimal places
Estimating and checking calculations				Estimate the answer to a calculation and use inverse operations to check answers	Estimate and use inverse operations to check answers to a calculation		Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
Order of operations							Use their knowledge of the order of operations to carry out calculations involving the four operations
Solving multiplication and division problems including		Solve one-step problems involving multiplication and division, by	Solve problems involving multiplication and division, using materials,	Solve problems, including missing number	Solve problems involving multiplying and adding, including using	Solve problems involving multiplication and division	solve problems involving addition, subtraction,

those with missing numbers		calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	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	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	multiplication and division Solve problems involving similar shapes where the scale factor is known or can be found

						simple fractions and problems involving simple rates	
Number – fractions (including decimals and percentages)							
Recognising fractions		Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four 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	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)	

				fractions and non-unit fractions with small denominators			
Comparing decimals					Compare numbers with the same number of decimal places up to two decimal places	Read, write, order and compare numbers with up to three decimal places	Identify the value of each digit in numbers given to three decimal places
Rounding including decimals					Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	Solve problems which require answers to be rounded to specified degrees of accuracy
Counting, comparing and ordering fractions			Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on	Count up and down in tenths Compare and order unit fractions, and fractions with the same denominators	Count up and down in hundredths	Compare and order fractions whose denominators are all multiples of the same number	Compare and order fractions, including fractions >1

			the number line			Compare numbers with the same number of decimal places up to two decimal places	
Equivalence			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	Recognise and show, using diagrams, families of common equivalent fractions Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to 1 / 4 ; 1 / 2 ; 3 / 4	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Read and write decimal numbers as fractions (e.g. 0.71 = 71 / 100) Recognise and use thousandths and relate them to	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3 / 8)

						tenths, hundredths and decimal equivalents 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 as a decimal fraction	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Adding and subtracting fractions				Add and subtract fractions with the same denominator within one whole (e.g. 5 /	Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and multiples	add and subtract fractions with different denominators and mixed

					7 + 1 / 7 = 6 / 7)		of the same number Recognise mixed numbers fractions and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. 2 / 5 + 4 / 5 = 6 / 5 = 1 1 / 5)	numbers, using the concept of equivalent fractions
Multiplying and dividing fractions						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	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 (e.g. 1 / 4 × 1 / 2 = 1 / 8)

| | | | | | ones, tenths and hundredths | | Multiply one-digit numbers with up to two decimal places by whole numbers Divide proper fractions by whole numbers (e.g. 1 / 3 ÷ 2 = 1 / 6) Multiply one-digit numbers with up to two decimal places by whole numbers Multiply and divide numbers by 10, 100 and 1000 where the answers are up to |

							three decimal places
							Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
							Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3 /8)
							Use written division

							methods in cases where the answer has up to two decimal places
Solving problems involving fractions, decimals and percentages				Solve problems that involve all of the above	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 Solve simple measure and money problems involving fractions and decimals to	Solve problems involving numbers up to three decimal places Solve problems which require knowing percentage and decimal equivalents of 1 / 2 , 1 / 4 , 1 / 5 , 2 / 5 , 4 / 5 and those with a denominator of a multiple of 10 or 25.	

					two decimal places		
Ratio and proportion							
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 Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
Algebra							
Equations							Express missing number problems algebraically

							Find pairs of numbers that satisfy number sentences involving two unknowns Enumerate all possibilities of combinations of two variables
Formulae					Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit		Use simple formulae Recognise when it is possible to use formulae for area and volume of shapes
Sequences							Generate and describe linear number sequences

Measurement

| Comparing and estimating | Compare length, weight and capacity. | 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] Sequence events in chronological order using language [e.g. before and | Compare and order lengths, mass, volume/capacity and record the results using >, < and = Compare and sequence intervals of time | Compare durations of events, for example to calculate the time taken by particular events or tasks 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) | Estimate, compare and calculate different measures, including money in pounds and pence | Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm 2) and square metres (m 2) and estimate the area of irregular shapes Estimate volume (e.g. using 1 cm 3 blocks to build cubes and cuboids) and capacity (e.g. using water) | Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm 3) and cubic metres (m 3), and extending to other units such as mm 3 and km 3 . |

		after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]					
Measuring and calculating		Measure and begin to record the following: * lengths and heights * mass/weight * capacity and volume * time (hours, minutes, seconds) Recognise and know the value of different denominations of coins and notes	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 Recognise and use symbols for pounds (£) and	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacit y (l/ml) Measure the perimeter of simple 2-D shapes Add and subtract amounts of money to give change, using both £ and p in practical contexts	Estimate, compare and calculate different measures, including money in pounds and pence Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Find the area of rectilinear shapes by	Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate Recognise that shapes with the same areas can have different perimeters

			pence (p); combine amounts to make a particular value		counting squares	area of squares and rectangles including using standard units, square centimetres (cm 2) and square metres (m 2) and estimate the area of irregular shapes	and vice versa Calculate the area of parallelogram s and triangles
			Find different combinations of coins that equal the same amounts of money			recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	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 [e.g. mm 3 and km 3]
			Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change				Recognise when it is possible to

						use formulae for area and volume of shapes
Telling the time		Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. 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 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,	Read, write and convert time between analogue and digital 12 and 24-hour clocks Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days		

Converting							
					noon and midnight		
Converting			Know the number of minutes in an hour and the number of hours in a day.	Know the number of seconds in a minute and the number of days in each month, year and leap year	Convert between different units of measure (e.g. kilometre to metre; hour to minute)	Solve problems involving converting between units of time Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use equivalences between	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 Solve problems involving the calculation

| | | | | | | metric units and common imperial units such as inches, pounds and pints | and conversion of units of measure, using decimal notation up to three decimal places where appropriate

Convert between miles and kilometres |
|---|---|---|---|---|---|---|---|
| | | | | **Geometry - properties of shapes** | | | |
| Properties of shape | Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. | 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 | 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 | | Identify lines of symmetry in 2-D shapes presented in different orientations | Identify 3-D shapes, including cubes and other cuboids, from 2-D representations | Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius |

		cubes), pyramids and spheres]	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	Complete a simple symmetric figure with respect to a specific line of symmetry	Draw given angles, and measure them in degrees (o)	Recognise, describe and build simple 3-D shapes, including making nets Draw 2-D shapes using given dimensions and angles
Comparing and classifying		Compare and sort common			Compare and classify	Use the properties of	Compare and classify

			2-D and 3-D shapes and everyday objects		geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	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	geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Angles and rotation				Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right	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 Identify: * angles at a	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

				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		point and one whole turn (total 360 o) * angles at a point on a straight line and ½ a turn (total 180 o) * other multiples of 90	
Geometry – position and direction							
Position, direction and movement	Continue, copy and create repeating patterns.	Describe position, direction and movement, including half, quarter and	Use mathematical vocabulary to describe position, direction and movement		Describe positions on a 2-D grid as coordinates in the first quadrant	Identify, describe and represent the position of a shape following a reflection or	Describe positions on the full coordinate grid (all four quadrants)

	Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	three-quarter turns	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)		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	translation, using the appropriate language, and know that the shape has not changed	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Pattern			Order and arrange combinations of mathematical objects in patterns and sequences				
Statistics							
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	Interpret and present discrete and continuous data using appropriate	Complete, read and interpret information in tables,	Interpret and construct pie charts and line graphs and use these

			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		graphical methods, including bar charts and time graphs	including timetables	to solve problems
Solve problems using data				Solve one–step and twostep questions [e.g. '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.	Solve comparison, sum and difference problems using information presented in a line graph	Calculate and interpret the mean as an average

Impact

	Children in Reception will have a deep understanding of number to 10, including the composition of each number. They will know and understand how to subitise up to 5. They will be able to automatically recall number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. Children will be able to verbally count	Children in Year 1 should be able to count to thirty and identify number bonds to ten and twenty. They should be able to add and subtract two groups and write number sentences to show this. They should be able to use resources to show their reasoning. Children should be able to identify a range of simple 2D and 3D shapes and recall basic properties. They can divide objects into groups and	Children in Year 2 will be able to count to 100 and beyond, They will use place value to add and subtract a 2 digit and a 2 digit number beginning to show exchange and carrying. They know their 2, 5, and 10 times table They can name and describe common 2D and 3D shapes. They can show mastery in the way that they use their written methods and understand word problems. They will be confident using bar models and part-part-whole models. They understand the fractions halves	Children in Year 3 have a secure understanding of place value to 3 digit numbers, are able to use the column method confidently to add and subtract 3 numbers. They will have a secure knowledge of the 3, 4 and 8 times tables and will be able to use written methods for multiplication and division.	Children in Year 4 have a growing confidence with place value, using these skills within both written and mental calculations for all four operations. Children have developed a better understanding of mathematical reasoning.	Children in Year 5 will gain a knowledge of mathematical concepts and their ability to explain and reason their mathematical thinking using a wide range of vocabulary.	Children in Year 6 are prepared for transition to KS3 through their knowledge of mathematical concepts and their ability to explain and reason their mathematical thinking using a wide range of vocabulary.

	beyond 20, recognising the pattern of the counting system. They can compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Children will also be able to explore and represent patterns within numbers up to 10, including evens and odds, double	draw simple arrays. They can identify coins and measure simple lengths, heights, capacities and volumes.	quarters and thirds. They recognize and use coins. They can tell the time to the nearest 15 minutes.			

	facts and how quantities can be distributed equally.						