Church of the Ascension C.E. Primary School

'Learn with love, flourish with faith.'

Curriculum Subject Progression Framework

Subject: Maths

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens.	Count in steps of 2,3 and 5 from 0 and in tens from any number, forward and backwards.	Count from 0 in multiples of 4,8, 50 and 100; find 10 or 100 more or less than a given number	Count in multiples of 6,7,9,25 and 1000 Count backwards through zero to include negative numbers	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Count forwards and backwards with positive and negative whole numbers, including through zero	
Place Value: Represent	Identify and represent numbers using objects and	Read and write numbers to at least 100 in numerals and in words	Identify, represent and estimate numbers using different representations	Identify, represent and estimate numbers using	Read, write, (order and compare) numbers to 1,000,000 and	Read, write, (order and compare) numbers to 10,000,000 and

	pictorial representations Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words	Identify, represent and estimate numbers using different representations, including the number line.	Read and write numbers up to 1000 un numerals and in words	different representations 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	determine the value of each digit Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	determine the value of each digit
Place Value: Use PV and compare	Given a number, identify one more and one less	Recognise the place value of each digit in a two digit number (tens and ones) Compare and order numbers from 0 up to 100; use <, > and = signs	Recognise the place value of each digit in a three-digit number (hundreds, tens and ones) Compare and order numbers up to 1000	Find 1000 more or less than a given number Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)	(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 to at least 10,000,000 and determine the value of each digit

				Order and compare numbers beyond 1000		
Place Value: Problems and Rounding		Use place value and number facts to solve problems	Solve number problems and practical problems involving these ideas	Round any number to the nearest 10, 100 or 1000 Solve number and practical problems that involve all of the above and with increasingly large positive numbers	Interpret negative numbers in context Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 100000 Solve number problems and practical problems that involve all of the above.	Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero Solve number and practical problems that involve all of these above.
Addition and Subtraction: Recall,	Read, write and interpret mathematical statements	Recall and use addition and subtraction facts to 20 fluently, and	Estimate the answer to a calculation and use	Estimate and use inverse operations to	Use rounding to check answers to calculations and determine, in the	

Represent, Use	involving addition (+), subtraction (-) and equals (=) signs Represent and use number bonds and related subtraction facts within 20	derive and use related facts to 100 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 relationship between addition and subtractions and use this to check calculations and solve missing number problems	inverse operations to check answers	check answers to a calculation	context of a problem, levels of accuracy.	
Addition and Subtraction: Calculations	Add and subtract one-digit and two-digit numbers to 20, including 0	Add and subtract numbers using concrete objects, pictorial representations,	Add and subtract numbers mentally, including *A three-digit number and ones *a three-digit number and tens *a	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar	Perform mental calculations, including with mixed operations and large numbers

		and mentally, including *A two-digit number and ones *A two-digit number and tens *Two two-digit numbers *Adding three one digit numbers	three-digit number and hundreds Add and subtract numbers with up to three digits, suing formal written methods of columnar addition and subtraction	and subtraction where appropriate	addition and subtraction) Add and subtract numbers mentally with increasingly large numbers.	Use their knowledge of the order of operations to carry out calculations involving the four operations
Addition and Subtraction: Solve Problems	Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = Δ- 9	Solve with addition and subtraction *use concrete objects and pictorial representations, including those involving numbers, quantities and measure *applying their increasing knowledge of mental and written methods	Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division and a combination of these	Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why

					including understanding the meaning of the equals sign	
Multiplication and Division: Recall, Represent, Use		Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Show that multiplication of two numbers can be done in any order (commutative) and division of one number cannot by another	Recall and use multiplication and division facts for the 3,4 and 8 multiplication tables	Recall and use multiplication and division facts for multiplication tables up to 12 x 12 Use place value, known and derived facts to multiply and divide mentally, including; multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers Recognise and use factor pairs and commutativity in mental calculations	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 (non-prime) numbers Establish whether a number up to 100 is prime and recall prime numbers to 19	Identify common factors, common multiples and prime numbers Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

					Recognise and use square numbers and cube numbers and notation for squared (^{2}) and cubed (^{3})	
Multiplication and Division: Calculations		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 for two digit numbers times one-digit numbers, using mental and progressing to formal written methods	Multiply two-digit and three digit numbers by a one-digit number using formal written layout Spring 1	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 Multiply and divide numbers mentally drawing upon known facts Divide numbers up to 4 digits by a one-digit number using formal written method of short division and interpret	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 number whole number using the formal written method of **long** division, and interpret remainders as whole numbers, fractions, or by rounding, as appropriate for the context.

					remainders appropriately for the context Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 Autumn 4 Spring 1 Summer 1	Divide numbers up to 4 digits by a two digit number whole number using the formal written method of **short** division, and interpret remainders as whole numbers, fractions, or by rounding, as appropriate for the context. Perform mental calculations, including with mixed operations and large numbers
Multiplication and Division: Solve Problems	Solve one-step problems involving multiplication and division, by calculating the answer using	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods,	Solve problems including missing number problems, involving multiplication and division, including positive integer scaling problems and	Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one-digit, integer	Solve problems involving multiplication and division including using their knowledge of factors	Solve problems involving addition, subtraction, multiplication and division

	concrete objects, pictorial representations and arrays with the support of the teacher	and multiplication and division facts, including problems in contexts	correspondence problems in which n objects are connected to m objects	scaling problems and harder correspondence problems such as n objects are connected to m objects	and multiples, squares and cubes Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Autumn 2
Multiplication and Division: Operations combined					Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Use their knowledge of the order of operations to carry out calculations involving the four operations
Fractions: Recognise and Write	Recognise, find and name a half as one of two equal parts of an object, shape or quantity	Recognise, find, name and write fractions third, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of	Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit	Count up and down in hundredths; recognise the hundredths arise when dividing an object by one	Identify, name and write equivalent fractions of a given fraction, represented visually, including	

	Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	objects or a quantity	numbers or quantities by 10 Recognise, find and write fractions of s discrete set of objects; unit fractions and non-unit fractions with small denominators Recognise and use fractions as numbers,; unit fractions and non-unit fractions with small denominators	hundred and dividing tenths by ten.	tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$	
Fractions: Compare		Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	Recognise and show using diagrams, equivalent fractions with small denominators Compare and order unit fractions, and fractions with the same denominators	Recognise and show, suing diagrams, families of common equivalent fractions	Compare and order fractions whose denominators are all multiples of the same number	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions > 1

Fractions: Calculations		Write simple fractions for example $\frac{1}{2}$ of 6 = 3	Add and subtract fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$	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 Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Add and subtract fractions with different denominators and mixed numbers, suing the concept of equivalent fractions Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ Divide proper fractions by whole numbers [for example $\frac{1}{3} \div 2 = \frac{1}{6}$

Fractions: Solve Problems			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		
Decimals: recognise and Write				Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$	Read and write decimal numbers as fractions [for example 0.71 = $\frac{71}{100}$ Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	Identify the value of each digit in numbers given to three decimal places

Decimals: Compare				Round decimals with one decimal place to the nearest whole number Compare numbers with the same number of decimal places up to two decimal places	Round decimals with two decimal places to the nearest whole number to one decimal place Read, write, order and compare numbers with up to three decimal places	
Decimals: Calculations and problems				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 or hundredths	Solve problems involving numbers up to three decimal places	Multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places Multiply one-digit numbers with up to two decimal places by whole numbers

						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
Fractions, Decimals and Percentages				Solve simple measure and money problems involving fractions and decimals to two decimal places	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 which require knowing percentage	Associate a fraction with division and calculate decimal fraction equivalents [for example 0.375] for a simple fraction [for example 3/8] Recall and use equivalences between simple fractions, decimals and percentages,

					and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	including different contexts
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 examples, 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	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	Solve problems, including missing number problems			Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically

						Find pairs of numbers that satisfy an equation with two unknowns Enumerate possibilities of combinations of two variables
Measurements: Using measures	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	Choose and use appropriate standard units to estimate and measure length/height in and 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) Estimate, compare and calculate different measures	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre, centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use approximate equivalences between metric units and common imperial units such as	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of

	than, less than, half, half full,, quarter Time-quicker, slower, earlier, later Measure and begin to record the following: Lengths and heights Mass/eight Capacity and volume Time (hours, minutes, seconds)	Compare and order lengths, mass, volume/capacity and record the results using the >,< and =			inches, pounds and pints Use all four operations to solve problems involving measure (for example length, mass, volume, money) using decimal notation, including scaling	measure to a larger unit and vice versa using decimal notation to up to three decimal places. Convert between miles and kilometres
Measurement money	Recognise and know the value of different denominations of coins and notes.	Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value	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	Use all four operations to solve problems involving measure (for example money)	

		Find different combinations of coins that equal the same amounts of money Solve simple problems in a practical context involving addition and subtraction of money of the same units, including giving change				
Measurement Time	Sequence events in order using language e.g. before and after, next, first, today, yesterday, tomorrow, afternoon, and evening	Compare and sequence intervals of time Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on the clock	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	Read, write and convert time between analogue and digital 12 and 24 hour clocks Solve problems involving converting from hours to minutes; minutes ti seconds ; years to	Solve problems involving converting between units of time	Use, read and convert between standard units, converting measurements of time from smaller unit of measure to a larger unit, and vice versa

	Recognise and use language related to dates, including days of the week, weeks, months and years Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	face to show these times Know the number of minutes in an hour and hours in a day	compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events e.g. to calculate the time taken by particular events or tasks	months; weeks to days		
Measurement: Perimeter, Area, Volume			Measure the perimeter of a simple 2D shape	Measure and calculate the perimeter of a rectilinear figure (incl squares) in centimetres and metres	Measure and calculate the perimeter of a composite rectilinear shapes in centimetres and metres	Recognise that shapes with the same areas can have different perimeters and vice versa

				Find the area of rectilinear shapes by counting squares	Calculate and compare the area of rectangles (inc squares) and including using standard unites, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. Estimate volume for example using I cm^3 blocks to build cuboids (including cubes) and capacity (e.g. using water	Recognise when it is possible to use formulae for area and volume of shapes Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids using standard units, incl cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units e.g. mm^3 and km^3
Geometry: 2D shapes	Recognise and name common 2D shapes e.g. rectangle, square, circle, triangle	Identify and describe the properties of 2D shapes, including the number of sides and line of	Draw 2D shapes Summer 3	Compare and classify geometric shapes, including quadrilaterals and triangles based on	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Draw 2D shapes using given dimensions and angles

		symmetry in a vertical line Identify 2D shapes on the surface of 3D shapes, for example a circle on a cylinder and a triangle on a pyramid Compare and sort common 2D shapes and everyday objects		their properties and size. Identify lines of symmetry in 2D shapes presented in different orientations	Use the properties of rectangles to deduce related facts and find missing lengths and angles	Compare and classify geometric shapes based on their properties and sizes Illustrate and name parts of circles, including radius, diameter and circumference and know that diameter is twice the radius
Geometry: 3D shapes	Recognise and name common 3D shapes e.g. cubes, cuboids, pyramids and spheres	Recognise and name common 3D shapes e/g/ cube, cuboid, pyramids and spheres Compare and sort common 3D shapes and everyday objects	Make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them		Identify 3D shapes including cubes and other cuboids from 2D representations	Recognise, describe and build simple 3D shapes, including making nets

Geometry: Angles and Lines			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 makes three quarters of a turn and four makes 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	Identify acute and obtuse angles and compare and order angles up to two right angles by size Identify lines of symmetry in 2D shapes presented in different orientations Complete a simple symmetric figure with respect to a specific line of symmetry	Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees Identify: Angles at a point and one whole turn (total 360°) Angles at appoint on a straight line and ½ a turn (180°) Other multiples of 90°	Find unknown angles in any triangles, quadrilaterals, and regular polygons Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
Geometry: Position and direction	Describe position, direction and movement, including whole,	Order and arrange combinations of mathematical		Describe positions on a 2D grid as coordinates in the first quadrant	Identify describe and represent the position of a shape following a reflection or translation, suing	Describe positions on the full coordinate gird (all four quadrants)

	half and there-quarter turn	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)		Describe movements between positions as translations of a given unit to the left/right and up/down Plot specified point5s and draw sides to complete a given polygon	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
Statistics: Present and Interpret		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	Complete, read and interpret information in tables, including timetables	Interpret and construct pie charts and line graphs and use these to solve problems

Statistics: Solve problems		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	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	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