



St. Bartholomew's C of E Primary School Stage 5 Maths

National Curriculum Strand	Sub Strand	Step 1	Step 2	Step 3	National Curriculum End of Stage Expectations
Number	Number system and counting (MA1:1)	1) Recognise the place value of 4 digit numbers, compare and order them.	1) Read, write, order and compare numbers to at least 100,000 then 500,000 and determine the value of each digit.	1) Read, write, order and compare numbers to at least 1000,000 and determine the value of each digit.	1) Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.
		2) Count forwards in backwards in tents and hundreds up to 1,000,000	2) Count forwards in backwards in thousands and tens of thousands up to 1,000,000	2) Count forwards and backwards in any power of 10 up to 1,000,000	2) Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.
		3) Can count backwards through 0 using negative numbers.	3) Count forwards and backwards through 0 in different multiples	3) Count forwards and backwards using a range of contexts.	3) Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through 0.
		4) Round any number to the nearest 10, 100 and 1000 up to 10,000 or 100,000.	4) Round any number to the nearest 10, 100 and 1000, 10,000 and 100,000 up to 500,000.	4) Round any number to the nearest 10, 100 and 1000, 10,000 and 100,000 up to 1,000,000.	4) Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.
		5) Read Roman numerals to 100 (I to C) and I understand how numbers developed to include 0	5) Read, write Roman numerals up to 500 and understand how the numbers can be developed.	5) Read, write Roman numerals up to 1000 and understand how the numbers can be developed	5) Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.
		6) Read, write, order and compare numbers with up to 2 decimal places with equal decimal places.	6) Read, write, order and compare numbers with up to 2 decimal places using mixed decimals.	6) Read, write, order and compare numbers with up to decimal places using mixed decimals.	6) Read, write, order and compare numbers with up to 3 decimal places.
		7) Read and write decimal equivalents of tenths and hundredths.	7) Compare fractions and decimals using tenths and hundredths.	7) Read, write and compare thousandths, hundredths and tenths and their fractions equivalents.	7) Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
	Number system and counting (MA1:1)	8) Round decimals with one decimal place to the nearest whole number.	8) Round decimals with two decimal places to the nearest whole number.	8) Round decimals with two decimal places to the nearest tenth.	8) Round decimals with two decimal places to the nearest whole number and to the nearest tenth.

		9) Make square and cube numbers using objects.	9) Make square and cube numbers using diagrams.	9) Recall square numbers to at least 12 x 12 and cube numbers using written methods.	9) Recognise and use square and cube numbers.
	Addition Subtraction Multiplication and Division (MA2:2)	10) Use known facts to add and subtract mentally, up to 3 digit numbers. e.g. 700 + 900 etc.	10) Use known facts to add and subtract mentally, up to 4 digit numbers. e.g. 15,000 – 9,000 etc.	10) Use known facts to add and subtract mentally, up to 2 decimals e.g. 0.36 + 0.36 etc.	10) Add and subtract numbers mentally with increasingly large numbers
		11) Add and subtract numbers up to 4 digits using columnar methods.	11) Add and subtract with more than 4 digits using whole numbers.	11) Add and subtract with at least 4 digits including decimal numbers using formal written methods.	11) Add and subtract whole numbers with more than 4 digits using formal columnar addition and subtraction.
		12) Solve addition and subtraction one-step problems in contexts, deciding which operations to use and why.	12) Solve addition and subtraction two-step problems in contexts, deciding which operations to use and why.	12) Solve addition and subtraction two-step problems in contexts, including decimals, deciding which operations to use and why.	12) Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
		13) Recognise and use factor pairs (in any order) in mental calculations.	13) Identify all factor pairs for 2 digit numbers.	13) Identify common multiple rules of numbers up to 100.	13) Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers.
		14) Recall multiplication facts up to 12x12 and use known facts to multiply and divide mentally up to 3 digit numbers.	14) Use known facts to multiply and divide mentally up to 4 digit numbers e.g. 6 x 3,000	14) Use known facts to multiply and divide mentally up to 4 digit number including decimals. e.g. 6 x 0.4 = 2.4	14) Multiply and divide numbers mentally using known facts.
		15) Multiply two-digit and three-digit numbers by a one-digit number using a formal layout.	15) Multiply four-digit numbers by a one-digit number using short multiplication.	15) Multiply four-digit numbers by a two digit number using long multiplication.	15) 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.
		16) Multiply and divide whole and decimal numbers and those by 10.	16) Multiply and divide whole and decimal numbers and those by 100.	16) Multiply and divide whole and decimal numbers and those by 1000.	16) Multiply and divide whole numbers and those involving decimals by 10,100 and 1000.

		17) Divide 3 digit numbers by a 1 digit number using short division	17) Divide 3 and 4 digit numbers by a 1 digit number using short division and find remainders.	17) Divide 3 and 4 digit numbers by a 1 digit number using short division and find remainders up to 3 decimal places.	17) Divide numbers up to four-digits by a one-digit number using the formal written method of short division and interpret remainders appropriately according to context.
		18) Recognise prime numbers up to 20.	18) Recognise prime numbers up to 50.	18) Recall prime numbers up to 100 and beyond.	18) Tell whether a number up to 100 is a prime number and recall prime numbers up to 19.
	Fractions and Decimals (MA2:3)	19) Recognise and show, using diagrams, families of common equivalent fractions.	19) Recall equivalent fractions using common families e.g. $\frac{1}{2}$, $\frac{2}{4}$ etc.	19) Find equivalents fractions including decimals.	19) Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
		20) Compare and order fractions with the same denominator using resources.	20) Compare and order fractions with the same denominator using models and images	20) Compare and order fractions whose denominators are multiples of the same number.	20) Compare and order fractions whose denominators are multiples of the same number.
		21) Recognise and mixed and improper fractions using models and images.	21) Convert improper fractions into mixed numbers.	21) convert mixed numbers into improper fractions and use them in mathematical statements	21) Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <1 as mixed numbers e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$
		22) Add and subtract fractions with the same denominator using models and images.	22) Add and subtract fractions with same denominator.	22) Add and subtract fractions with the denominators using the same multiples.	22) Add and subtract fractions with the same denominator and multiplies of the same number.
		23) Multiply proper fractions and mixed numbers by whole numbers using models and images.	23) Multiply proper fractions and mixed numbers by whole numbers using diagrams.	23) Multiply proper fractions and mixed numbers by whole numbers.	23) Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
		24) Convert common fractions into decimals e.g. $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$.	24) Convert decimals into fractions using tenths and 100 th s.	24) Read and write decimal numbers as fractions.	24) Read and write decimal numbers as fractions.

		25) Use diagrams to find percentage of 100.	25) Write percentages as a fraction and decimal number.	25) Compare decimals, fractions and percentages using a denominator of 100.	25) Recognise the percent symbol (%) and understand percent means number of parts per hundred and write percentages as a fraction with a denominator 100 and as a decimal.
		26) Convert fractions, decimals and percentages using common fractions.	26) Compare fractions, decimals and percentages using common fractions.	26) Solve problems involving FDP using equivalent common fractions.	26) Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25.
Geometry and Measures	Measurement (MA3:1)	27) Convert between different units of measure using 1 decimal place.	27) Convert between different units of measure using 2 decimal places.	27) Convert between different units of measure using 3 decimal places.	27) Convert between different units of metric measure (e.g. km and m; cm and m; cm and mm; g and kg; l and ml).
		28) Convert between inches and cm and vice versa up to 1m.	28) Convert between pounds and kg and vice versa up to 10kg.	28) Convert between pints and litres up to 10 litres.	28) Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints.
		29) Measure and calculate perimeter of shapes using objects and squares.	29) Measure and calculate perimeter of shapes using cm.	29) Measure and calculate perimeter of shapes using cm and m.	29) Measure and calculate the perimeter of composite rectilinear shapes in cm and m.
		30) Find the area of rectilinear shapes by counting squares.	30) Calculate the area of squares and rectangles using cm^2 and m^2 .	30) Make accurate comparisons between areas of squares and rectangles. Estimate the area of irregular shapes.	30) Calculate and compare the area of squares and rectangles including using standard units cm^2 and m^2 and estimate the area of irregular shapes.
		31) Read, write and convert time between analogue and digital 12 and 24hr clocks.	31) Solve problems involving the duration of time, using analogue and digital clocks.	31) Solve problems involving converting between units of time.	31) Solve problems involving converting between units of time.
		32) Use 4 operations to one and two step measure problems involving whole numbers.	32) Use 4 operations to one and two step measure problems involving decimal numbers.	32) Use 4 operations to one and two step measure problems involving scaling.	32) Use all four operations to solve problems including measure (e.g. length, mass, volume, money) using decimal notation including scaling.

	Geometry Property of Shape. (MA3:2)	33) Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	33) Sort regular and irregular shapes based on their properties.	33) Describe the difference between regular and irregular shapes using their properties.	33) Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
		34) Identify acute and obtuse angles and compare and order angles up to two right angles.	34) Measure acute, obtuse and reflex angles.	34) Identify, measure and compare acute, obtuse and reflex angles.	34) Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
		35) Draw and measure angles less than a right angle.	35) Draw and measure angles less than a 180 degrees	35) Draw and measure angles up to 360 degrees.	35) Draw given angles and measure them in degrees.
		36) Name sort and describe 3-D shapes using the correct properties.	36) Match 3-D shapes to their 2-D representations.	36) Recognise 3-D shapes from drawings of shapes.	36) Identify 3-D shapes, including cubes and cuboids, from 2-D representations.
		37) Measure the lengths of sides and angles in rectangles.	37) Find missing angles in rectangles.	37) Find the missing lengths of sides in a given rectangle.	37) Use the properties of rectangles to deduce related facts and find missing lengths and angles.
	Geometry Position and Direction (MA3:3)	38) Describe positions on a 2-D grid as coordinates in the first quadrant.	38) Reflect shapes in the 4 quadrants knowing the shape has not changed.	38) Translate shapes in the 4 quadrants knowing the shape has not change.	38) Identify, describe and represent the position of a shape following a reflection or translation, including the appropriate language, and know that the shape has not changed.
Statistics	Statistics (MA4:1)	39) Use information in bar charts, pictograms and tables to compare and solve problems.	39) Interpret and present discrete and continuous data using graphs and time tables.	39) Use line graphs and timetables to make comparison and solve problems.	39) Complete, read and interpret information in line graphs and tables, including time tables.