St. Bartholomew's C of E Primary School Stage 4 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) Count backwards and forwards through zero in multiples of 3, 4 and 6.	1) Count backwards and forwards through zero in multiples of 7, 8 and 9.	1) Count using different multiples backwards and forwards through zero in different contexts.	**1) Count backwards through 0 using negative numbers.**
		2) Recognise the place value of each digit in a 3-digit number.	2) Recognise the place value of each digit in numbers up to 500.	2) Recognise the place value of each digit in numbers up to 10,000.	**2) Recognise the place value of each digit in a four-digit number.**
		3) Compare and order numbers up to 1,000.	3) Compare and order numbers up to 5000.	3) Compare and order numbers up to 10,000.	**3) Compare and order numbers beyond 1000.**
		4) Round any 3-digit number to the nearest 10 and 100.	4) Round any 4-digit number to the nearest 10 and 100.	4) Round any 4-digit number to the nearest 10, 100 and 1000 in context.	**4) Round any 4 digit number to the nearest 10, 100 and 1000.**
		5) Read and write numbers Roman numerals up to 50.	5) Read and write numbers Roman numerals up to 100.	5) Solve problems using Roman numerals up to 100.	**5) Read Roman numerals to 100 (I to C) and I understand how numbers developed to include 0.**
	Addition Subtraction Multiplication and Division **(MA2:2)**	6) Addition and subtraction of 2-digit numbers using both mental strategies and formal written methods of columnar addition and subtraction.	6) Addition and subtraction of 2-digit and 3-digit numbers using both mental strategies and formal written methods of columnar addition and subtraction.	6) Addition and subtraction of 3-digit and 4-digit numbers using both mental strategies and formal written methods of columnar addition and subtraction	**6) Add and subtract numbers up to 4 digits using columnar methods.**
		7) Use rounding and inverse operations to estimate and check addition and subtraction of 2-digit numbers using formal written methods.	7) Use rounding and inverse operations to estimate and check addition and subtraction of 3-digit numbers using formal written methods.	7) Use rounding and inverse operations to estimate and check addition and subtraction of up to 4-digit numbers using formal written methods.	**7) Solve addition and subtraction two-step problems in contexts, deciding which operations to use and why.**

		8) Recall and use multiplication and division facts for the 3, 4 and 8 times tables.	8) Recall and use multiplication and division facts for the 6, 7 and 9 times tables and review 3, 4 and 8 times tables.	8) Recall and use multiplication and division facts up to 12 x 12.	**8) Recall multiplication and division facts up to 12x12.**
		9) Multiply and divide 1- and 2-digit numbers by 10.	9) Multiply and divide 1- and 2-digit numbers by 100.	9) Multiply and divide 3- and 4-digit numbers (including decimals) by 10 and 100.	**9) Use place value, known and derived facts to multiply and divide mentally, including multiplying and dividing by 0 and 1; dividing by 1; multiplying together three numbers**
		10) Multiply a 2-digit number by a 1-digit number using the grid method.	10) Multiply a 3-digit number by a 1-digit number using the grid method.	10) Multiply a 2-digit number and 3-digit numbers using the grid method.	**10) Multiply two-digit and three-digit numbers by a one-digit number using a formal layout.**
	Fractions and Decimals **(MA2:3)**	11) Recognise and show, using practical equipment and diagrams, equivalent fractions with small denominators $^1/_2$, $^1/_4$, $^1/_6$, $^1/_8$ and $^1/_{10}$.	11) Recognise and show, using diagrams, equivalent fractions with small denominators $^1/_2$, $^1/_4$, $^1/_6$, $^1/_8$, $^1/_{10}$, $^1/_5$ and $^1/_3$.	11) Recognise and show, using diagrams, families of common equivalent fractions.	**11) Recognise and show, using diagrams, families of common equivalent fractions.**
		12) Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators $^1/_2$, $^1/_4$, $^1/_6$, $^1/_8$ and $^1/_{10}$ for sets of objects.	12) Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators $^1/_2$, $^1/_4$, $^1/_6$, $^1/_8$, $^1/_{10}$, $^1/_5$ and $^1/_3$ for sets of objects.	12) Recognise and use fractions such as $^1/_4$, $^1/_2$, $^3/_4$, $^1/_5$, $^1/_6$, $^1/_{10}$ for sets of objects	**12) Solve problems involving increasingly harder fractions to calculate quantities and fractions divide quantities, including non-unit fractions where the answer is a whole number.**
		13) Add and subtract fractions with the same denominator within a whole for smaller number denominators using practical equipment.	13) Add and subtract fractions with the same denominator within a whole for larger number denominators using diagrams.	13) Add and subtract fractions with the same denominator.	**13) Add and subtract fractions with the same denominator.**

		14) Recognise and use decimal equivalents of tenths.	14) Recognise and use decimal equivalents of tenths and hundredths in the context of money.	14) Recognise and write decimal equivalents to common fractions¼, ½, ¾* and simple fractions.	**14) Recognise and write decimal equivalents of any number of tenths or hundredths.**
		15) Use diagrams to find equivalents fractions for $^1/_4$, $^1/_2$ and $^3/_4$.	15) find equivalents fractions for $^1/_4$, $^1/_2$ and $^3/_4$.	15) Find decimals with the equivalent for $^1/_4$, $^1/_2$ and $^3/_4$.	**15) Recognise and write decimal equivalents to $^1/_4$, $^1/_2$ and $^3/_4$.**
		16) Count forwards and backwards in in tenths from different starting numbers	16) Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100.	16) Count up and down in hundredths using different contexts; recognise that hundredths arise when dividing an object by 100.	**16) Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.**
		17) Round 2 digit numbers with 1 decimal place to the nearest whole number.	17) Round 3 digit numbers with 1 decimal place to the nearest whole number.	17) Round 4 digit numbers with 1 decimal place to the nearest whole number.	**17) Round decimals with 1decimal place to the nearest whole number.**
		18) Compare numbers up to 100 with 1 decimal place.	18) Compare numbers less than 1 with 2 decimal places using practical resources.	18) Compare and order decimal numbers up to 2dp.	**18) Compare numbers with the same number of decimals places up to 2dp.**
Geometry and Measures	**Measurement (MA3:1)**	19) Convert between units of length (mm, cm, m, km)	19) Convert between units of length and capacity (ml, l)	19) Convert between units of length, capacity and time (seconds, minutes, hours, days)	**19) Convert between different units of measure (e.g. km to m; hr to min).**
		20) Calculate the perimeter of simple 2-D rectilinear shapes using squares.	20) Measure and calculate the perimeter of simple 2-D rectilinear shapes in centimetres	20) Measure and calculate the perimeter of simple 2-D rectilinear shapes in centimetres and in metres and work out the length of the sides of simple 2-D shapes given their perimeter	**20) Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.**
		21) Find the area of simple 2-D quadrilaterals by counting squares	21) Find the area of 2-D shapes by counting squares including compound shapes.	21) Find the area of rectilinear shapes by using a simple formula Length x Width.	**21) Find the area of rectilinear shapes.**

		22) Add and subtract amounts of money to give change, using both £ and p in practical contexts.	22) Add and subtract units of length, using both m and cm in practical contexts.	22) Estimate, measure and compare length, mass and money in practical contexts.	**22) Estimate, compare and calculate different measures, including money in pounds and pence.**
		23) 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.	23)Tell and write the time using one minute intervals on an analogue clock including Roman numerals	23)To read and write the timer to 1 minute intervals on a 12 hour and 24 hour digital clock.	**23) Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.**
		24) Tell the time to the nearest minute on an analogue clock.	24) Tell the time, know am/pm using an analogue and 12hr clock and calculate time intervals.	24) Read, write and convert time between analogue and digits 12 and 24hr clocks.	**24) Read, write and convert time between analogue and digits 12 and 24hr clocks.**
	Geometry Property of Shape. (**MA3:2)**	25) Name, identify and draw regular 2-D shapes in different orientations.	25) Name and identify right angled, equilateral, isosceles and scalene triangles.	25) Name and identify all quadrilaterals.	**25) Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.**
		26) Recognise right angles as a property of shape or a description of a turn.	26) Identify acute and obtuse angles.	26) Measure and compare angles up to 180° using a suitable method. (Visual or using a protractor)	**26) Identify acute and obtuse angles and compare and order angles up to two right angles.**
		27) Find lines of symmetry in squares and rectangles.	27) Identify lines of symmetry in squares, rectangles and triangles**.**	27) Identify lines of symmetry in regular 2-D shapes.	**27)Identify lines of symmetry in 2-D shapes presented in different orientations**
		28) Complete a simple symmetric figure in a vertical line of symmetry	28)Complete a simple symmetric figure in a horizontal line of symmetry	28) Complete a simple symmetric figure in a diagonal line of symmetry.	**28) Complete a simple symmetric figure with respect to a specific line of symmetry.**
	Geometry Position and Direction **(MA3:3)**	29) Read and plot co-ordinates on a simple grid.	29) Use co-ordinates to plot and draw sides of polygons.	29) Identify missing coordinates in the first quadrant	**29) Describe positions on a 2-D grid as coordinates in the first quadrant.**

		30) Describe pathways between two pints in the first quadrant.	30) Draw and move a shape horizontally using co-ordinates to describe its movement.	30) Draw and move a shape vertically using co-ordinates to describe its movement.	**30) Describe movements between positions as translations of a given unit to the left/right and up/down.**
Statistics	**Statistics** **(MA4:1)**	31) Collect, interpret and present data using bar charts, pictograms and tables.	31) Collect, interpret and present data using tally charts, bar charts, pictograms, Carroll diagram and Venn diagrams.	31) Interpret and present discrete and continuous data using line and time graphs.	**31) Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and line graphs.**
		32) Solve comparison, sum and difference problems using information presented in bar charts and tables.	32) Solve comparison, sum and difference problems using information presented in pictograms, Carroll diagram and Venn diagrams.	32) Solve comparison, sum and difference problems using information presented in line graphs.	**32) Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.**