

John Emmerson Batty Primary School Mathematics Curriculum – Year 4

Year 4	KEY VOCABULARY						
Number System	Number - Addition and Subtraction	Number - Multiplication and Division	Number - Fractions/Decimals/Percentages and Ratio	Algebra	Measurement	Statistics	Geometry
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations 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 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. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> recall 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 three numbers recognise and use factor pairs and commutativity in mental calculations multiply two-digit and three-digit numbers by a one-digit number using formal written layout solve problems involving multiplying and adding, including using 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. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. 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 add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ 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 and hundredths 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 solve simple measure and money problems involving fractions and decimals to two decimal places. 	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none"> <i>*solve missing number problems using number facts, place value, and more complex addition and subtraction.</i> <i>*solve missing number problems involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</i> <p>*NB these are specifically Y3 requirements but children need to revise missing number problems during Y4</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> Convert between different units of measure [for example, kilometre to metre; hour to minute] measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares estimate, compare and calculate different measures, including money in pounds and pence 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. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to two right angles by size identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry. describe positions on a 2-D grid as coordinates in the first quadrant 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.
KEY VOCABULARY					iPad applications to support learning		
<p>rhombus</p> <p>parallelogram</p> <p>kite</p> <p>trapezium</p> <p>pentagon</p>	<p>hexagon</p> <p>heptagon</p> <p>octagon</p>	<p align="center">Hit the Button (Top Marks)</p> <p align="center">Times Tables Rockstars</p> <p align="center">Prodigy</p> <p align="center">calculator</p>					

Termly / Weekly Focus (Guide for the Class Teacher) – Year 4

Wk	Term 1a	Wk	Term 1b
1	Number and Place Value - 4-digit numbers, Ordering beyond 1000, 1000 more or less	1	Addition - Addition Chains, Written Addition, Problem Solving
2	Addition and Subtraction - Mental Addition/Subtraction, 1 and 2 Step problems	2	Decimals - Decimal fractions, Comparing Decimals, Rounding to Whole Number
3	Properties of Shapes - Symmetry in 2D, Reflecting 2D, Symmetrical Patterns, Making Repeating Patterns	3	Measurement - Mass - Mass using Decimal Notation, Multiples of Standard Weights, Estimating/Rounding Mass
4	Multiplication - 9x table, Using 10x table to learn 9x table, 6x table	4	Multiplication/Division - Square Numbers, 7x table, Finding Factors, Multiples
5	Fractions - Equivalent, Non-unit Fractions	5	Multiplication/Division - Multiplication Using Partitioning, Grid Method, Expanded Written Method, Mental Multiplications
6	Position and Direction - Translating 2D shape, Coordinates, Plotting Points, Translations	6	Measurement - Time - Converting units of Time, 12-hour clock, 24-hour clock
7	Assessments	7	Assessments

Wk	Term 2a	Wk	Term 2b
1	Number and Place Value - Ordering beyond 1000, Place Value Problems, Rounding to the Nearest 10 or 100, Negative Numbers	1	Measurement - Length - km, m, Word Problems Statistics - Bar Charts, Time Graphs, Pictograms
2	Subtraction - Written Subtraction, Word Problems	2	Addition/Subtraction - Adding/Subtracting Mentally, Writing 2-Step Problems, Written Addition
3	Properties of Shapes - Acute/Obtuse Angles, Angles in 2D Shapes, Ordering Angles, Regular Polygons	3	Subtraction - Written Subtraction, Word Problems
4	Multiplication - Multiples of 25, 100 and 1000, Formal Written Method, Efficient Methods	4	Multiplication - HTO x O using Partitioning, HTO x O Using Grid Method, Word Problems
5	Fractions - Number lines, Hundredths and Tenths	5	Decimals - Hundredths, Dividing by 10/100 Measurement - Perimeter and Area - Perimeter of Rectangles, Counting Squares for Area, Finding/Calculating Area
6	Assessments	6	Assessments

Wk	Term 3a	Wk	Term 3b
1	Number - Ordering, Rounding to Nearest 10, 100 or 1000, Negative Numbers, Roman Numerals	1	Subtraction - Ordering and Subtracting Money, Problem Solving
2	Addition/Subtraction - Written Addition/Subtraction, Ordering and Adding Money	2	Decimals - Tenths, Hundredths, Comparing/Rounding, Dividing by 10 and 100
3	Shapes - Triangles, Parallelogram, Rhombus, Trapezium, Kite, Know Quadrilaterals	3	Geometry - Position and Shape - Coordinates, Plotting Points and Making Shapes
4	Assessments - In School End of Year Assessments	4	Division - $TO \div O$ Using Partitioning, $TO \div O$ Using Formal Written Method, $HTO \div O$ Using Partitioning
5	Multiplication - $HTO \times O$ Using Formal Written Method, $HTO \times O$ Efficient Methods, Problem Solving	5	Division - Formal Written Method, Most Efficient Method, Word Problems
6	Fractions - Equivalent, Adding, Subtracting	6	Assessments
7	Measurement - Volume/Capacity - litres, Estimating/Rounding, Problem Solving	7	Statistics - Bar Charts, Time Graphs, Data Collection

Place Value	1. Count in multiples of 6, 7, 9, 25 and 1000.
	2. Find 1000 more or less than a given number. Round any number to the nearest 10, 100 or 1000.
	3. Count backwards through zero to include negative numbers.
	4. Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens, and ones). Order and compare numbers beyond 1000.
	5. 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.
Add and Sub	6. Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.
	7. Estimate and use inverse operations to check answers to a calculation.
	8. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
Mult and Divide	9. Recall multiplication and division facts for multiplication tables up to 12×12 .
	10. Recognise and use factor pairs and commutativity in mental calculations.
	11. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
	12. Solve probs involving \times and \div , inc. using the distributive law to mult 2 digit nos by 1 digit, integer scaling probs and harder correspondence probs such as n objects are connected to m objects.
Fractions	13. Recognise and show, using diagrams, families of common equivalent fractions.
	14. Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.
	15. Add and subtract fractions with the same denominator.
	16. Recognise and write decimal equivalents of any number of tenths or hundredths; and the decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and three quarters.
	17. 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 and hundredths.
	18. Round decimals with one decimal place to the nearest whole number. Solve simple measure and money problems involving fractions and decimals to 2 decimal places.
MEASURE	19. Convert between different units of measure (e.g. kilometre to metre). Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days).
	20. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting squares.
	21. Estimate, compare and calculate different measures, including money in pounds and pence.
	22. Read, write and convert time between analogue and digital 12 and 24-hour clocks.
GEOMETRY	23. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
	24. Identify acute and obtuse angles and compare and order angles up to two right angles by size.
	25. Identify lines of symmetry in 2-D shapes presented in different orientations.
	26. Complete a simple symmetric figure with respect to a specific line of symmetry.
	27. Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down.
	28. Plot specified points and draw sides to complete a given polygon.
STATS	29. Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
	30. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.