Class 3 – Year 4

Maths Overview – Cycle A & B

	Autumn Term		Spring Term		Summer Term	
Area of Maths	**Number & Place Value Addition & Subtraction**	**Addition & Subtraction Multiplication & Division**	**Fractions & Decimals**	**Measurement (including time)**	**Geometry**	**Statistics**
Knowledge	• Count in multiples of 6, 7, 9, 25 and 1000 • Count backwards through zero to include negative numbers • Identify, represent and estimate numbers using different representations • Read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of 0 and place value • Find 1000 more or less than a given number • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones) • Order and compare numbers beyond 1000 • Round any number to the nearest 10, 100 or 1000 • Solve number problems and practical problems involving the above with increasingly large positive numbers • Add and subtract numbers with up to four digits, using formal written methods of columnar addition and subtraction	• 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 • Recall and use multiplication and division facts for times 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 2-digit and 3-digit numbers by a 1-digit number using formal written layout • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1-digit, integer scaling problems such as: n objects are connected to m objects	• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • Recognise and show, using diagrams, families of common equivalent fractions • Add and subtract fractions with the same denominator • Solve problems to calculate quantities, and fractions to divide quantities, including non-unit fractions • Recognise and write decimal equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ • 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 • 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	• Convert between different units of measure [E.g. kilometre to metre, hour to minute] • Estimate, compare and calculate different measures • 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 • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and meters • Find the area of rectilinear shapes by counting squares	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • Identify lines of symmetry in 2D shapes presented in different orientations • 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 • Describe positions on a 2D 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 •	• 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
Key Vocabulary - same as previous years, plus:	thousands, four-digit, negative, one thousand more, one thousand less, decimal, decimal place, rounding, place holder, nearest ten/hundred/thousand, whole number, integer, tenths, hundredths, three-digit, thousands, estimate, minus	three-digit, thousands, estimate, minus, formal written method, column multiplication, short multiplication, grid method, factors, factor pairs, scaling	hundredths, decimal, decimal place, one decimal place, two decimal places, round, common, equivalent, decimal equivalents,	estimate, rectilinear, figure, area, shapes, convert	co-ordinates, quadrant, grid, translate, axis, symmetric, geometric, quadrilaterals, acute angle, obtuse angle	time graphs, comparison

	Fluency - become fluent in the fundamentals of mathematics, through frequent practice with increasingly complex problems, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems. **Understanding & Being accurate and Efficient** 	**Reasoning -** reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. **Exploring & Proving** 	**Problem Solving** - solve problems by applying mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. **Applying & Persevering**