Year 4 End of Year Expectations

Strand	Autumn	Spring	Summer
Number and Place Value	• count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers • 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) • 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	• count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers • 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) • order and compare numbers beyond 1000 • round any number to the nearest 10, 100 or 1000 • 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 (Roman numerals should be put in their historical context so pupils understand that there have been different ways to write whole numbers and that the important concepts of zero and place value were introduced over a period of time) • solve number and practical problems that involve all of the above and with increasingly large positive numbers • begin to extend their knowledge of the number system to include the decimal numbers and fractions that they have met so far.	• count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers • 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) • order and compare numbers beyond 1000 • round any number to the nearest 10, 100 or 1000 • 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 (Roman numerals should be put in their historical context so pupils understand that there have been different ways to write whole numbers and that the important concepts of zero and place value were introduced over a period of time) • solve number and practical problems that involve all of the above and with increasingly large positive numbers • begin to extend their knowledge of the number system to include the decimal numbers and fractions that they have met so far.

Addition and Subtraction	- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. - Complements to 1000 - estimate and use inverse operations to check answers to a calculation - add and subtract numbers **with up to 4 digits using** mental methods and jottings. - Use understanding of the value of the number to decide when to calculate mentally and when to use written method.	- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. - estimate and use inverse operations to check answers to a calculation - add and subtract numbers **with up to 4 digits using the formal written methods** of columnar addition and subtraction (+ money / decimals) where appropriate – ie. Only use when a mental method or jotting is not more efficient	- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. - estimate and use inverse operations to check answers to a calculation - add and subtract numbers **with up to 4 digits using the formal written methods** of columnar addition and subtraction (+ money / decimals) where appropriate – ie. Only use when a mental method or jotting is not more efficient
Multiplication and Division	- solve problems involving multiplying and adding, - Reproduce shape according to scale factor - recall multiplication and division facts for multiplication tables **up to 12 × 12** (Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency) - doubling facts of multiples of 100/1000 - doubling multiples of 10 beyond 100 - use place value e.g. 600÷3=200, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; **multiplying together three numbers** - Interpret remainders, rounding up or down depending on context - Estimate and multiply two-digit **and three-digit numbers** by a one-digit number using a formal written layout including grid method - Use mental arithmetic strategies when appropriate, e.g. partitioning, chunking and jottings	- 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 *(Pupils write statements about the equality of expressions (for example, use the distributive law 39 × 7 = 30 × 7 + 9 × 7 and associative law (2 × 3) × 4 = 2 × (3 × 4)). They combine their knowledge of number facts and rules of arithmetic to solve mental and written calculations for example, 2 x 6 x 5 = 10 x 6 = 60)* - recall multiplication and division facts for multiplication tables **up to 12 × 12** (Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency) - use place value e.g. 600÷3=200, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; **multiplying together three numbers**	- 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 *(Pupils write statements about the equality of expressions (for example, use the distributive law 39 × 7 = 30 × 7 + 9 × 7 and associative law (2 × 3) × 4 = 2 × (3 × 4)). They combine their knowledge of number facts and rules of arithmetic to solve mental and written calculations for example, 2 x 6 x 5 = 10 x 6 = 60)* - recall multiplication and division facts for multiplication tables **up to 12 × 12** (Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency) - use place value e.g. 600÷3=200, known and derived facts to multiply and divide mentally, including: multiplying by 0 and

• Doubling numbers 1-100 as a strategy • multiply and divide whole numbers and those involving decimals by 10 and 100	• **recognise and use factor pairs** and commutativity i**n mental calculations** e.g. 18x6=2x9x2x3=9x3x2x2=108 • Estimate and multiply two-digit **and three-digit numbers** by a one-digit number using a formal written layout including grid method • Use mental arithmetic strategies when appropriate, e.g. partitioning, chunking and jottings	1; dividing by 1; **multiplying together three numbers** • Estimate and multiply two-digit **and three-digit numbers** by a one-digit number using a formal written layout including grid method • Short division of TU÷U and HTU÷U • Use mental arithmetic strategies when appropriate, e.g. partitioning, chunking and jottings

Fractions

• recognise and show, using diagrams, families of common equivalent fractions (Pupils learn decimal notation and the language associated with it, including in the context of measurements) • recognise and write decimal equivalents of any number of tenths or hundredths. (Practise counting using simple fractions and decimals, both forwards and backwards • recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ 1/5 • compare numbers with the same number of decimal places up to two decimal places • Ongoing < >= • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Number line (They extend the use of the number line to connect fractions, numbers and measures) • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the	• practise counting using simple fractions and decimals, both forwards and backwards • recognise and show, using diagrams, families of common equivalent fractions • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal • equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ 1/5 • compare numbers with the same number of decimal places up to two decimal places • Ongoing < >= • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Number line (Pupils understand the relation between non-unit fractions and multiplication and division of quantities, with particular emphasis on tenths and hundredths.) • read, write, order and compare numbers with up to two decimal places (or 3 in measures)	• recognise and show, using diagrams, families of common equivalent fractions • Ongoing < >= • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Number line • read, write, order and compare numbers with up to two decimal places (or 3 in measures) • round decimals with one decimal place to the nearest whole number • add and subtract fractions with the same denominator beyond one whole, and convert to a mixed number • 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 • solve simple measure and money problems involving fractions and decimals to two decimal places.(3 with measures).

	value of the digits in the answer as ones, tenths and hundredths • Sharing and division link • Complements of 1 to 1 and 2 dp. E.g. 0.8 +0.2 = 1.0, 0.83 + 017 = 1.00 etc • Find both unit and non-unit fractions of amnts. E.g. 3/8 of £24 • .	• round decimals with one decimal place to the nearest whole number • add and subtract fractions with the same denominator beyond one whole, and convert to a mixed number • Sharing and division link • 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 • solve simple measure and money problems involving fractions and decimals to two decimal places.(3 with measures). • Pupils continue to practise adding and subtracting fractions with the same denominator, to become fluent through a variety of increasingly complex problems beyond one whole.	• Pupils continue to practise adding and subtracting fractions with the same denominator, to become fluent through a variety of increasingly complex problems beyond one whole.
Ratio and Proportion			• Solve problems involving similar shapes where the scale factor is known. • Solve simple problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts e.g. I use 3l red and 1l white tubs of paint to make 4l of pink. How many red paint tubs do I need for 12l of pink?
Measurement	• 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	• estimate, compare and calculate different measures, including money in pounds and pence. (Pupils build on their understanding of place value and decimal notation to record metric measures, including money)	• estimate, compare and calculate different measures, including money in pounds and pence (Pupils build on their understanding of place value and decimal notation to record metric measures, including money)

	• find the area of rectilinear shapes by counting squares– relate area to arrays and multiplication.	• Order temperatures (positive and negative) using a number line • 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.	• Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit.
Geometry (Properties of Shape)	• identify and describe the properties of 2-D shapes, including the number of sides • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • Pupils draw lines and shapes using a straight edge • Identify lines of symmetry in 2D shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry	• 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 • Compare and order angles in preparation for using a protractor and compare lengths and angles to decide if a polygon is regular or irregular.	
Geometry (Position and Direction)			• 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. (Pupils draw a pair of axes in one quadrant, with equal scales and integer labels. They read, write and use pairs of coordinates, for example (2, 5), including using coordinate-plotting ICT tools.)
Statistics	• 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.	• Pupils begin to relate the graphical representation of data to recording change over time.(e.g. temperature)

		(Pupils understand and use a greater range of scales in their representations)	
Algebra	• Line graphs of linear sequences in context • Simple formulae related to shape eg perimeter and area of squares and rectangles and compound shapes • Balance puzzles with symbols	• Generating a negative sequence beyond zero •	• Use of the constant function on a calculator eg inputting x to find y • Plotting sequences eg x tables in +ve quadrant