Year 4 – Maths Long Term Plan

Autumn			
Place Value (5 Weeks)	Addition and Subtraction (2 Weeks)	Shape (3 Weeks)	Length, Perimeter and Area (2 weeks)

Spring			
Multiplication and Division (6 Weeks)	Statistics (1.5 weeks)	Position and Direction (2 weeks)	Time (2.5 weeks)

Summer			
Fractions (4 Weeks)	Decimals (5 Weeks)	Money (1.5 weeks)	Mass & Capacity (1.5 weeks)

Year 4: Place Value *(5 Weeks)*	
Prior Knowledge: • Count from 0 in multiples of 2, 3, 4, 5, 8, 50 and 100 • Find 1, 10 or 100 more or less than a given number • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • Compare and order numbers up to 1000 • Read and write numbers up to 1000 in numerals and in words	Vocabulary: Number, Count, Order, Compare, Numerals, Digit, Equal to, More than, Less than (Fewer), Represent, Multiples, Partitioning, Recombine, Ones, Tens, Place Value, Hundreds, Estimate, Ascending, Descending, Negative numbers, Integers, Round, Roman numerals, Thousands
Links to National Curriculum: • count in multiples of 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.	Assessment Criteria (Ready to Progress): • Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. • Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning. • Reason about the location of any fourdigit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. • Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts
Small Steps: 1) Represent numbers to 1,000 2) Partition numbers to 1,000 3) Number line to 1,000 4) Thousands 5) Represent numbers to 10,000 6) Partition numbers to 10,000 7) Flexible partitioning of numbers to 10,000 8) Find 1, 10, 100, 1,000 more or less	9) Number line to 10,000 10) Estimate on a number line to 10,000 11) Compare numbers to 10,000 12) Order numbers to 10,000 13) Roman numerals 14) Round to the nearest 10 15) Round to the nearest 100 16) Round to the nearest 1,000 17) Negative numbers 18) Count in multiples of 25

Year 4: Addition and Subtraction *(2 Weeks)*

Prior Knowledge:	Vocabulary:
• Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • Add and subtract numbers mentally. • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • Estimate the answer to a calculation and use inverse operations to check answers • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Add, Plus, Altogether, Total, Take away, Minus, Part, Whole, Digit, Addition, More, Sum, Subtraction, Difference, Equals, Missing number problems, Inverse, Commutative, Column addition, Column subtraction, Exchange, Estimate
Links to National Curriculum:	Assessment Criteria (Ready to Progress):
• 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.	• Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)
Small Steps: 1) Add and subtract 1s, 10s, 100s and 1,000s 2) Column Addition 3) Column Subtraction 4) Efficient subtraction 5) Estimate answers 6) Checking strategies	

Year 4: Shape *(3 Weeks)*	
Prior Knowledge:	Vocabulary:

• Recognise and name common 2-D and 3-D shapes • Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. • Draw 2-D shapes and make 3-D shapes using modelling materials • Recognise 3-D shapes in different orientations and describe them • Recognise angles as a property of shape or a description of a turn • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn • Identify whether angles are greater than or less than a right angle • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	2-D shapes, Rectangle, Square, Circle, Triangle, 3-D shapes, Cuboids, Cubes, Cone, Spheres, Curved, Straight, Flat, Sides, Corners, Properties, Pyramids, Faces, Pentagon, Hexagon, Cylinder, Octagon, Line of symmetry, Symmetrical, Mirror line. Reflection, Edges, Vertices, Vertex, Right angle, Heptagon, Polygon, Horizontal, Vertical, Perpendicular, Parallel, Angles, Acute, Obtuse, Turn, Greater than a right angle, Less than a right angle, Clockwise, Anticlockwise, Isosceles, Equilateral, Scalene, Trapezium, Rhombus, Parallelogram, Kite, Quadrilaterals, Regular polygon, Irregular polygon
Links to National Curriculum: • 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.	Assessment Criteria (Ready to Progress): • Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. • Identify line symmetry in 2D shapes presented in different orientations. • Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.
Small Steps: 1) Understand angles as turns 2) Identify angles 3) Compare and order angles 4) Triangles 5) Quadrilaterals 6) Polygons 7) Lines of symmetry 8) Complete a symmetric figure 9) 3D shapes	

Year 4: Perimeter & Area *(2 Weeks)*	
Prior Knowledge: • Measure the perimeter of simple 2-D shapes	Vocabulary: Measure, Centimetre cm, Metre m, Millimetre mm, Perimeter, Rectilinear shape, Area
Links to National Curriculum:	Assessment Criteria (Ready to Progress):

• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • Find the area of rectilinear shapes by counting squares	• Find the perimeter of regular and irregular polygons
Small Steps: 1) Measure in kilometres and metres 2) Equivalent lengths (kilometres and metres) 3) Perimeter on a grid 4) Perimeter of a rectangle 5) Perimeter of rectilinear shapes 6) What is area? 7) Count squares	

Year 4: Multiplication and Division *(6 Weeks)*	
Prior Knowledge: • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Vocabulary: Multiplication, Division, Lots of, Groups of, Times, Multiple, Multiply, Divide, Multiplication tables, Commutative, Exchange, Derived facts, Product, Factors, Scale up, Factor pairs, Distributive law, Remainders

• Recall and use multiplication and division facts for the 2,3, 4, 5, 8 and 10 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Assessment Criteria (Ready to Progress): • Recall multiplication and division facts up to 12 x 12 and recognise products in multiplication tables as multiples of the corresponding number. • Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. • Apply place-value knowledge to known multiplicative number facts (scaling facts by 100) • Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. • Manipulate multiplication and division equations and understand and apply the commutative property of multiplication. • Understand and apply the distributive property of multiplication.
Links to National Curriculum: • Recall multiplication and division facts for multiplication tables up to 12 × 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.	

Small Steps: 1) 6 times-table and division facts 2) 9 times-table and division facts 3) 7 times-table and division facts 4) 11 times-table and division facts 5) 12 times-table and division facts 6) Multiply by 1 and 0	7) Divide a number by 1 and itself 8) Multiply three numbers 9) Factor pairs 10) Multiply by 10 11) Multiply by 100 12) Divide by 10 13) Divide by 100 14) Related facts - multiplication and division	15) Two-digit multiplication (distributive law) 16) Column Multiplication 17) Formal Division (no exchange) 18) Formal Division (exchange) 19) Division with remainders 20) Scaling problems 21) Correspondence problems

Year 4: Statistics *(1.5 Weeks)*	
Prior Knowledge: • Interpret and present data using bar charts, pictograms and tables • Solve one-step and two-step questions [for example, 'how many more?' and 'how many fewer?'] using information presented in scaled bar charts, pictograms, and tables.	Vocabulary: Pictograms, Tally chart, Represent, Category, Totalling, Comparing, Horizontal, Vertical, Table, Bar chart, Axis, Frequency table, Line graph, Comparison problem, Interpret
Links to National Curriculum:	Assessment Criteria (School Set):

• 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.	• Read and draw a line graph
Small Steps: 1) Interpret charts 2) Comparison, sum and difference 3) Interpret line graphs 4) Draw line graphs	

Year 4: Position and Direction *(2 Weeks)*	
Prior Knowledge: • Describe position, direction and movement, including whole, half, quarter and three quarter turns. • Recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn	Vocabulary: Position, Direction, Movement, Whole turn, Quarter turn, Half turn, Three-quarter turn, Left, Right, Up, Down, Clockwise, Anticlockwise, Co-ordinates, Grid, Translation, Translate, Plot, X axis, Y Axis
Links to National Curriculum: • Describe positions on a 2-D grid as coordinates in the first quadrant	Assessment Criteria (Ready to Progress):

• 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.	• Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.
Small Steps: 1) Describe position using coordinates 2) Plot coordinates 3) Draw 2-D shapes on a grid 4) Translate on a grid 5) Describe translation on a grid	

Year 4: Time *(2.5 Weeks)*	
Prior Knowledge: • Recognise and use language relating to dates, including days of the week, weeks, months and years, o'clock, a.m./p.m., morning, afternoon, noon and midnight • Know the number of minutes in an hour, the number of hours in a day, the number of seconds in a minute and the number of days in each month, year and leap year • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • Estimate and read time with increasing accuracy to the nearest minute	Vocabulary: Time, Day, Week, Hour, Minute, Month, Year, O'clock, Second, Past, To, Duration, Analogue, 12-hour clock, 24-hour clock, Am/pm, Noon, Midnight, Leap year, Digital

• Record and compare time in terms of seconds, minutes and hours and durations of events.	
Links to National Curriculum: • 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.	Assessment Criteria (School Set): • Read time to the nearest minute - analogue and digital
1) Years, months, weeks and days 2) Hours, minutes and seconds 3) Analogue time (nearest minute) 4) Digital time (nearest minute) 5) Convert between analogue and digital times 6) Convert to the 24 hour clock 7) Convert from the 24 hour clock	

Year 4: Fractions *(4 Weeks)*	
Prior knowledge: • Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • Recognise and show, using diagrams, equivalent fractions with small denominators • Add and subtract fractions with the same denominator within one whole	Vocabulary: Whole, Equal parts, Equivalent fractions, Unit fractions, Non unit fractions, Numerator, Denominator, Equivalent, Convert, Proper fractions, Improper fractions, Mixed numbers

• Compare and order unit fractions, and fractions with the same denominators	
Links to National Curriculum: • 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	Assessment Criteria (Ready to Progress): • Reason about the location of mixed numbers in the linear number system. • Convert mixed numbers to improper fractions and vice versa. • Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers
Small Steps: 1) Understand the whole 2) Count beyond 1 3) Partition a mixed number 4) Number lines with mixed numbers 5) Understand improper fractions 6) Convert mixed numbers to improper fractions	7) Convert improper fractions to mixed numbers 8) Equivalent fractions on a number line 9) Equivalent fraction families 10) Add two or more fractions 11) Add fractions and mixed numbers 12) Subtract two fractions 13) Subtract from whole amounts 14) Subtract from mixed numbers

Year 4: Decimals *(5 Weeks)*	
Prior Knowledge: • Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Vocabulary: One, Tenths, Decimal Equivalent, Equivalence, Convert, Improper fractions Decimals point, Hundredths
Links to National Curriculum: • Recognise and write decimal equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ • 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	Assessment Criteria (School Set): • Be able to write any number of tenths and hundredths as a decimal.

• 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.	
Small Steps: 1) Tenths as fractions 2) Tenths as decimals 3) Tenths on a place value chart 4) Divide a 1- or 2- digit number by 10 5) Hundredths as fractions 6) Hundredths as decimals 7) Hundredths on a place value chart	8) Divide a 1- or 2-digit number by 100 9) Make a whole with tenths 10) Make a whole with hundredths 11) Partition decimals 12) Flexibly partition decimals 13) Compare decimals 14) Order decimals 15) Round to the nearest whole number 16) Halves and quarters as decimals

Year 4: Money *(1.5 Weeks)*	
Prior Knowledge: • Recognise and know the value of different denominations of coins and notes • Recognise and use symbols for pounds (£) and pence (p) • Add and subtract amounts of money to give change, using both £ and p in practical contexts	Vocabulary: Money Coins Notes Pounds £ Pence p Value Change
Links to National Curriculum: • Estimate, compare and calculate different measures, including money in pounds and pence	Assessment Criteria (School set): • Write money as a decimal.
Small Steps: 1) Write money using decimals 2) Convert between pounds and pence	

3) Calculate with money 4) Solve problems with money

Year 4: Length, Mass and Capacity *(1.5 Weeks)*	
Prior Knowledge: • Choose and use appropriate standard units to estimate and measure mass (kg/g) and capacity (litres/ml) to the nearest appropriate unit, using scales and measuring vessels.	Vocabulary: Measure, Centimetre cm, Metre m, Millimetre mm, Weight, Capacity, Mass, Volume, Kilogram kg, Gram g, Litres L, Millimetres ml, Convert
Links to National Curriculum: • Convert between different units of measure [for example, kilometre to metre; hour to minute]	Assessment Criteria (School Set): • 1km = 1,000m
Small Steps: 1) Mass 2) Capacity	