

MATHEMATICS

MEDIUM TERM PLAN – Y4



Concept	National Curriculum Objectives	Key Skills	Concrete Resources	Vocabulary
Number Place Value (Autumn Term)	<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. 	<ul style="list-style-type: none"> Represent numbers to 1000 Partition numbers to 1000 Number line to 1000 Thousands Represent numbers to 10,000 Partition numbers to 10,000 Flexible partitioning of numbers to 10,000 Find 1, 10, 100, 1000 more or less Number line to 10,000 Estimate on a number line to 10,000 Order numbers to 10,000 Roman numerals Round to the nearest 10 Round to the nearest 100 Round to the nearest 1000 Round to the nearest 10, 100 or 1000 	<ul style="list-style-type: none"> Numicon Diennes/Base 10 Place value counters Place value charts Straws Tens Frames & 2 sided counters Bead Strings Concrete objects for counting/ordering Number lines 	number, numeral, equal to, more, less, consecutive, one, tens, hundred, thousands, ten thousands, place value, represent, exchange, more, fewer, smaller, bigger, largest, compare, order, size, last, before, after, next, above, digit

<p>Number</p> <p>Addition and Subtraction</p> <p>(Autumn Term)</p>	<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p>estimate and use inverse operations to check answers to a calculation</p> <p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p>	<ul style="list-style-type: none"> • Add and subtract 1s, 10s, 100s and 1000s • Add up to two 4-digit numbers- no exchange • Add up to two 4-digit numbers - one exchange • Add up to two 4-digit numbers - more than one exchange • Subtract two 4-digit numbers - no exchange • Subtract two 4-digit numbers - one exchange • Subtract two 4-digit numbers - more than one exchange • Efficient subtraction • Estimate answers • Checking strategies 	<ul style="list-style-type: none"> • Numicon • Diennes/Base 10 • Straws • Tens Frames & 2 sided counters • Place value counters • Bead Strings • Number lines • Concrete objects to manipulate when adding/subtracting • Interlocking Cubes • Digit cards (moving to abstract) 	<p>Addition, add, more, and, total, altogether, double, near double, half, halve, subtract, takeaway, how many are left?, fewer, difference between, equals, is the same as, number bonds/pairs/facts, missing number, tens boundary, hundreds boundary, inverse</p>
<p>Measurement</p> <p>Area</p> <p>(Autumn Term)</p>	<ul style="list-style-type: none"> • find the area of rectilinear shapes by counting squares 	<ul style="list-style-type: none"> • What is area? • Count squares • Make shapes • Compare shapes 	<ul style="list-style-type: none"> • Range of shapes • Measuring equipment - rulers, metre sticks, tape measures • Squared paper 	<p>Measure, size, compare, metric, unit, millimetre centimetre, length, height, width, breadth, ling, short, tall, wide, narrow, area, covers, square centimetre, ruler, metre stick, tape measure</p>
<p>Number</p> <p>Multiplication and Division (1)</p> <p>(Autumn Term)</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Multiples of 3 • Multiply and divide by 6 • 6 times table and division facts • Multiply and divide by 9 • 9 times tables and division facts • The 3, 6, 9 times tables • Multiply and divide by 7 • 7 times tables and division facts • 11 times tables and division facts • 12 times tables and division facts • Multiply by 1 and 0 	<ul style="list-style-type: none"> • Counters • Objects for grouping • String beads • Numicon • Times table squares • Place value charts 	<p>Multiplication, multiply, multiplied by, multiple, factor, groups of, times, product, array, rows, columns, repeated addition, division, dividing, divided into, left over, remainder, grouping, sharing, sharing equally, equal groups of, doubling, halving, number patterns, multiplication table,</p>

		<ul style="list-style-type: none"> • Divide a number by 1 and itself • Multiply three numbers 		<p>multiplication fact, division fact, inverse square, squared, cube, cubed</p>
<p>Number</p> <p>Multiplication and Division (2)</p> <p>(Spring Term)</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Factor pairs • Efficient multiplication • Written methods • Multiply 2 digits by 1 digit • Multiply 2 digits by 1 digit (move to short formal method) • Multiply 3 digits by 1 digit • Divide 2 digits by 1 digit • Divide 2 digits by 1 digit (move towards formal method) • Divide 2 digits by 1 digit (remainders) • Correspondence problems 		
<p>Measurement</p> <p>Length and Perimeter</p> <p>(Spring Term)</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Equivalent lengths • Kilometres • Add and subtract lengths • Measure perimeter • Perimeter on a grid • Perimeter of a rectangle • Perimeter of rectilinear shapes 	<ul style="list-style-type: none"> • Rulers • Objects to measure • Interlocking cubes • 2-D shapes 	<p>Millilitre, centimetre, metre, kilometre, length, height, width, long, short, tall, high, low, wide, narrow, thick, thin, longer, shorter, taller, higher, longest, shortest, tallest, highest, far, furthest, near, close distance apart, perimeter, ruler, metre stick, tape measure</p>
<p>Number</p> <p>Fractions</p> <p>(Spring Term)</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 	<ul style="list-style-type: none"> • What is a fraction? • Equivalent fractions • Fractions greater than 1 • Count in fractions • Add fractions • Add 2 or more fractions • Subtract fractions 	<ul style="list-style-type: none"> • Interlocking cubes • Counters • Numicon and peg boards • Range of objects to share into equal groups • Cuisenaire rods 	<p>Fraction, equivalent fraction, mixed number, numerator, denominator, equal part, equal grouping, equal sharing, parts of a whole, half, two</p>

	<ul style="list-style-type: none"> divide quantities, including non-unit fractions where the answer is a whole number add and subtract fractions with the same denominator 	<ul style="list-style-type: none"> Subtract 2 fractions Subtract from whole numbers Fractions of a set of objects Calculate fractions of a quantity Problem solving - calculate quantities 		halves, one of two equal parts, quarter, two quarters, three quarters, one of four equal parts, one third, two thirds, one of three equal parts, sixths, sevenths, eighths, tenths, hundredths
Number Decimals (1) (Spring Term)	<ul style="list-style-type: none"> 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 $\frac{1}{100}$ 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. 	<ul style="list-style-type: none"> Recognise tenths and hundredths Tenths as decimals Tenths on a place value grid Tenths on a number line Divide 1-digit by 10 Divide 2-digits by 10 Hundredths Hundredths as decimals Hundredths on a place value grid Divide 1 or 2 digits by 100 	<ul style="list-style-type: none"> Place value counters Place value charts Tens frames Numicon and peg boards 	Decimal, decimal fraction, decimal point, decimal place, decimal equivalent, ones, tenths, hundredths, value, digit, represents
Number Decimals (2) (Summer Term)	<ul style="list-style-type: none"> 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 $\frac{1}{100}$ 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. 	<ul style="list-style-type: none"> Bonds to 10 and 100 Make a whole Write decimals Compare decimals Order decimals Round decimals Halves and quarters 		

Measurement Money (Summer Term)	<ul style="list-style-type: none"> estimate, compare and calculate different measures, including money in pounds and pence Convert between different units of measure 	<ul style="list-style-type: none"> Pounds and pence Ordering money Estimating money Convert pounds and pence Add and subtract money - find change Four operations 	<ul style="list-style-type: none"> Money - coins, notes Money vocabulary word mats 	money, coin, penny, pence, pound, price, cost, buy, bought, sell, sold, spend, spent, pay, change, dear, costs more, cheap, costs less, cheaper, how much...? , how many...? total
Measurement Time (Summer Term)	<ul style="list-style-type: none"> 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. Convert between different units of measure 	<ul style="list-style-type: none"> Telling time to the nearest 1 minute Using a.m and p.m 24 hour clock Hours, minutes, seconds Years, months, weeks, days Analogue to digital - 12 hour Analogue to digital - 24 hour 	<ul style="list-style-type: none"> Class clocks Stopwatches Timers Interactive clocks 24 hour clock 12 hour clock 	Time, days of the week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday months of the year: January, February, March, April, May, June, July, August, September, October, November, December, Seasons: Spring, Summer, Autumn, Winter, day, week, weekend, fortnight, month, year, century, morning, afternoon, evening, night, today, yesterday, tomorrow, before, after, earlier, later, next, first,,last, now, soon, early, late earliest, latest, quick, quicker, quickest, quickly, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest, hour, o'clock, half past, quarter past, quarter to, a.m, p.m, digital, analogue, 12 hour clock time, 24 hour clock time

<p>Geometry</p> <p>Shape</p> <p>(Summer Term)</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. 	<ul style="list-style-type: none"> • Right angles in shapes • Identify angles • Compare and order angles • Triangles • Quadrilaterals • Horizontal and vertical • Lines of symmetry • Complete a symmetric figure 	<ul style="list-style-type: none"> • Selection of 2-D shapes • Selection of 3-D shapes • 2-D and 3-D shape word mats • Mirrors 	<p>Shape, pattern, flat, curved, straight, round, hollow, solid, surface, size, symmetry, corner, side, point, rectangle (including square), rectangular, circle, circular, triangle, triangular, pentagon, pentagonal, hexagon, hexagonal, octagon, octagonal, quadrilateral, right-angled, parallel, perpendicular, face, edge, vertex, vertices, cube, cuboid, pyramid, sphere, hemisphere, cone, cylinder, prism, triangular prism, tetrahedron, polyhedron, regular, irregular, polygon, right-angled, perpendicular, parallel</p>
<p>Statistics</p> <p>(Summer Term)</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. 	<ul style="list-style-type: none"> • Interpret charts • Comparison, sum and difference • Introducing line graphs • Line graphs 		<p>Count, tally, sort, vote, graph, represent block graph, pictogram, group, set, list, table, chart, bar chart, frequency table, Carroll diagram, Venn diagram, label title, axis, axes, diagram, most popular, least popular, most common, least common</p>

<p>Geometry</p> <p>Position and Direction</p> <p>(Summer Term)</p>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Describe position Draw on a grid Move on a grid Describe movement on a grid 	<ul style="list-style-type: none"> Large grids to physically move objects on 	<p>Position, over, under, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, beside, next to, opposite, apart, between middle, edge, centre, corner, direction, journey, route, left, right, up, down, higher, lower, forwards, backwards, sideways, across, next to, close, along, through, to, from, towards, away from, clockwise, anti-clockwise, compass point, North, South, East, West, North-East, North-West, South-East, South-West, horizontal, vertical, diagonal, translate, translation</p>
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