

Year 3 Maths Medium Term Plan

National Curriculum

<u>Number - Number and Place Value</u> Count from 0 in multiples of 4, 8, 50 and 100; find 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 Identify, represent and estimate numbers using different representations Read and write numbers up to 1000 in numerals and in words Solve number problems and practical problems involving these ideas	<u>Number – Addition and Subtraction</u> Add and subtract numbers mentally, including: -a three-digit number and ones -a three-digit number and tens -a three-digit number and hundreds 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	<u>Number – Multiplication and Division</u> Recall and use multiplication and division facts for the 3, 4 and 8 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	<u>Number – Fractions</u> 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 [for example $5/7 + 1/7 = 6/7$] Compare and order unit fractions, and fractions with the same denominators Solve problems that involve all of the above
<u>Measurement</u> Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Measure the perimeter of simple 2-D shapes Add and subtract amounts of money to give change, using both £ and p in practical contexts 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; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events [for example to calculate the time taken by particular events or tasks]	<u>Geometry – Properties of Shape</u> 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	<u>Geometry – Position and Direction</u>	<u>Statistics</u> 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 and pictograms and tables

Term	Counting in steps of...	Times table(s)	Essential Maths (32 steps)
1	3 100	3	3LS1 – Number and place value: Place value and regrouping Step 1: 10 ones are equal to 1 ten and 10 tens are equal to 1 hundred Step 2: Comparing representations of 3-digit numbers Step 3: Varying the order and practice Step 4: Regrouping 3-digit numbers flexibly Step 5: Securing equality (for example, 3 hundreds are equal to 30 tens and 300 ones) 3LS2 – Number and place value: Counting on and back in ones, tens and hundreds Step 1: Counting on and back in tens with two-digit numbers (and crossing 100) Step 2: Counting on and back in tens and hundreds (2- and 3-digit numbers) Step 3: Regrouping through hundreds Step 4: Counting on and back in ones, tens and hundreds including regrouping 3LS3 – Number and place value: Estimation, magnitude and rounding Step 1: Use value of digits to compare and order numbers (recognise most significant digit) Step 2: Estimate the order of 3-digit numbers Step 3: Estimate number magnitude Step 4: Round numbers to nearest ten and hundred 3LS4 – Number and place value: Measures: comparison, estimation and magnitude Step 1: Develop understanding of appropriate units Step 2: Reading scales 3LS5 – Addition and subtraction: Mental fluency: addition Step 1: Adding 3-digit numbers to ones, tens and hundreds with no regrouping Step 2: Adding 3-digit numbers to ones with regrouping ('Think 10') Step 3: Adding 2- and 3-digit numbers to tens with regrouping ('Think 100') Step 4: Mental addition with 2- and 3-digit numbers Step 5: Understanding sum and commutativity in addition Step 6: Finding complements and reordering Step 7: Using compensation to add Step 8: Using multiple strategies to add mentally 3LS6 – Addition and subtraction: Mental fluency: subtraction (AMALGAMATE STEP 1 AND 2) Step 1: Subtraction is not commutative Step 2: Place value subtraction Step 3: Subtracting hundreds, tens and ones with no regrouping Step 4 (optional): Subtracting ones from 2-digit numbers with regrouping Step 5: Subtracting multiples of ten from 3-digit number with regrouping Step 6: Subtracting 2-digit numbers from 2-digit numbers with regrouping Step 7: Mental subtraction with 2-digit numbers – varied practice Step 8: Compensation Step 9: Multi-strategy approaches

Term	Counting in steps of...	Times table(s)	Essential Maths (34 steps, 2 diagnostic papers)
2	4 100	4	3LS7 – Addition and subtraction: Fact families and applying the inverse Step 1: Commutative or not commutative? Step 2: Creating fact families Step 3: Using fact families and the inverse operation to find missing number Step 4: Solving more complex missing number problems 3LS8 – Addition and subtraction: Written addition Step 1: Columnar recording related to place value Step 2: Formal written method with no regrouping (exchange) Step 3: Formal written method with regrouping of ones Step 4: Regrouping tens and ones Step 5: Using measurement units within addition Step 6: Language of addition 3LS9 – Addition and subtraction: Written subtraction Step 1: Formal written method with no regrouping (exchange) Step 2: Subtraction – regrouping (exchange) tens into ones only Step 3: Subtraction – regrouping hundreds into tens only Step 4: Subtraction – regrouping hundreds and tens Step 5: Missing number subtraction problems Step 6: Mixed and multi-strategy practice 3LS10 – Addition and subtraction: Problem solving: word problems Step 1: Identifying the part or whole unknown in simple worded problems Step 2: Understanding start, change and result problems Step 3: Mixed Practice Step 4: Understanding multi-step part whole worded problems Step 5: Understanding simple comparison problems 3LS11 – Geometry and statistics: Statistics – interpreting bar charts and tables Step 1: Purpose of bar charts Step 2: Completing bar charts from information provided – identifying intervals of scales Step 3: Interpreting and inferring information from bar charts (including multi-step questions) Step 4: More complex bar chart problems 3LS12 – Geometry and statistics: Angles, right angles and estimation Step 1: Angles are measures of a turn Step 2: Comparing and ordering angles (using right angle as a benchmark) Step 3: Identify internal angles in 2-D shapes Step 4: Classifying shapes using internal angles as a property 3LS13 – Geometry and statistics: Perpendicular and parallel lines, vertical and horizontal lines Step 1: Perpendicular lines are lines that will meet at a right angle to each other (where lines are vertical and horizontal) Step 2: Perpendicular lines are straight lines that will meet at a right angle to each other (where lines could also be diagonals) Step 3: Parallel lines are straight lines that have a constant distance between them and will never meet at a point Step 4: Parallel sides and sides that are perpendicular to each other in shapes and parallel and perpendicular lines on diagrams Step 5: Vertical lines are perpendicular to the horizon and horizontal lines are parallel to the horizon Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning

Term	Counting in steps of...	Times table(s)	Essential Maths (24 steps)
3	4 100	4	3LS14 – Geometry and measurement: 2D shape – properties and drawing Step 1: Connect the number of sides to the number of angles (and vertices) in a polygon Step 2: Classifying regular and irregular polygons Step 3: Drawing and constructing polygons (property focus on vertices and congruence) Step 4: Drawing and constructing polygons (properties) 3LS15 – Geometry and measurement: Perimeter including problem solving using written and mental methods Step 1: Understand perimeter as distance around the sides of a closed shape – constructing perimeter and introducing the language of length and width Step 2: Calculate perimeter in rectilinear shapes (presented on 1cm² squared paper) Step 3: Know that different rectangles can have equal perimeters Step 4: Finding the perimeter of regular shapes Step 5: Finding perimeter of rectangles and regular polygons by measuring Step 6: Solving problems and providing proof with perimeter 3LS16 – Multiplication, division and statistics: Multiplication – 3, 4 and 8 times tables including counting Step 1: Understand that counting up in multiples is also repeated addition Step 2: Learning multiplication facts through building arrays Step 3: Learning multiplication facts through visualising arrays (developing recall) Step 4: Developing counting strategies for 3x and 4x tables 3LS17 – Multiplication, division and statistics: Division – 1, 2, 3, 5, 4, 8 times tables Step 1: Division by sharing using manipulatives Step 2: Division by grouping using manipulatives Step 3: Linking multiplication and division using arrays Step 4: Learning division facts through visualising arrays (developing recall) Step 5: Rehearsing division facts 3LS18 – Multiplication, division and statistics: Multiplication – strategy, associative and distributive laws Step 1: Doubling and halving Step 2: Halving two-digit numbers Step 3: Associative law Step 4: Distributive law up to 10 x 10 Step 5: Distributive law for 2-digit numbers 3LS19 – Multiplication, division and statistics: Statistics – pictograms and scales bar charts Step 1: Making links between bar charts and pictograms Step 2: Completing pictograms from information provided Step 3: Interpreting and inferring information from pictograms (including multi-step questions)

Term	Counting in steps of...	Times table(s)	Essential Maths (20 steps, 2 diagnostic papers)
4	8 50	8	3LS20 – Multiplication, division and statistics: Multiplication and division worded problems Step 1: Worded problems based on equal groups Step 2: Rate worded problems involving money Step 3: Combination worded problems Step 4: Mixed bar model examples including measures and time 3LS21 – Fractions: Fractions – finding fractions of discrete and continuous quantities Step 1: Exploring unit fractions and non-unit fractions Step 2: Find and write fractions of a discrete set of objects Step 3: Find and write fractions as continuous quantities Step 4: A range of fraction worded problems including multi-step 3LS22 – Fractions: Fractions – ordering and comparing fractions Step 1: Finding fractions of shapes Step 2: Compare and order unit fractions Step 3: Compare and order fractions with the same denominator Step 4: Exploring equivalence Step 5: Showing equivalence with accurate diagrams 3LS23 – Fractions: Fractions – adding and subtracting fractions with the same denominators Step 1: Finding complements of 1 Step 2: Adding fractions with the same denominator Step 3: Subtracting fractions with the same denominator Step 4: Applying the addition and subtraction of fractions with the same denominator 3LS24 – Fractions: Fractions – problem solving with unit and non-unit fractions Step 1: Problem solving involving fractions of shape Step 2: Ordering and comparing a range of fractions Step 3: Mixed worded problems including multi-step Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning

Term	Counting in steps of...	Times table(s)	Essential Maths (25 steps)
5	8 50	8	3LS25 – Multiplication and division: Multiplication - multiplying multiples of ten Step 1: Explore the effect of scaling by ten Step 2: Explore the effect of scaling by ten on place value Step 3: Multiplying multiples of ten by one-digit where the product is less than 100 Step 4: Multiplying multiples of ten by one-digit where the product is greater than 100 3LS26 – Multiplication and division: Multiplication – formal written multiplication Step 1: Multiplying two-digit numbers by ones using distributive law (no regrouping) Step 2: Multiplying two-digit numbers by ones using distributive law (with regrouping) Step 3: Introducing short multiplication with no regrouping Step 4: Short multiplication with regrouping of ones into tens only Step 5: Short multiplication with regrouping of ones and tens 3LS27 – Multiplication and division: Division problem solving – sharing and grouping Step 1: Division by sharing – part whole problems Step 2: Division by sharing – comparison problems Step 3: Division by grouping Step 4: Using known facts to solve missing number problems 3LS28 – Multiplication and division: Division – two and three digit numbers by one digit numbers including halving Step 1: Place value revision Step 2: Halving 2- and 3-digit numbers Step 3: Sharing 2- and 3-digit numbers by ones with no regrouping Step 4: Sharing 2- and 3-digit numbers by ones with regrouping Step 5: Linking base facts to division 3LS29 – Multiplication and division: Multiplication, division and fractions – scaling and correspondence problems Step 1: Solving integer scaling problems Step 2: Varying the unknown within correspondence problems Step 3: Mixed problems involving fractions 3LS30 – Multiplication and division: Division – long division Step 1: Revision of quotients and remainders when sharing Step 2: Introducing the long division method (sharing ones) Step 3: Long division of tens and ones with no regrouping Step 4: Long division of tens and ones with regrouping

Term	Counting in steps of...	Times table(s)	Essential Maths (39 steps, 2 diagnostic papers)
6	4 8 50 100	3 4 8	3LS31 – Measurement: Time – hours, minutes, seconds, days, weeks, months, years Step 1: Understand how days, months and years are related Step 2: Finding complements and intervals of 60 3LS32 – Measurement: Time – telling the time (analogue and digital) and estimation (AMALGAMATE STEPS 1 AND 2) Step 1: Recognising intervals on an analogue clock Step 2: Telling the time to the nearest minute on an analogue and digital clock Step 3: Understanding Roman numerals on clocks Step 4: Understanding am and pm Step 5 (optional): Estimating time and using timers 3LS33 – Measurement: Time – duration Step 1: Time to the nearest hour Step 2: Adding hours and minutes Step 3: Subtracting hours and minutes Step 4: Duration of time Step 5: Finding unknown start and end times from given duration of events Step 6 (optional): Comparing the duration of events 3LS34 – All four operations including fractions (including non-statutory decimal teaching to lay foundations for Year 4): Securing the four operations with whole number including problem solving Step 1: Securing addition and subtraction Step 2: Applying multiplication and division, including working systematically Step 3: Adding amounts of money Step 4: Subtracting amounts of money Step 5: Worded problems involving money 3LS35 – All four operations including fractions (including non-statutory decimal teaching to lay foundations for Year 4): Place value and decimals – ten times greater and ten times smaller Step 1: Ten times smaller than 1 is a tenth Step 2: Recording tenths as decimal numbers Step 3: Finding unknown tenths from known wholes Step 4: Finding unknown wholes from known tenths 3LS36 – All four operations including fractions (including non-statutory decimal teaching to lay foundations for Year 4): Place value and decimals – regrouping Step 1: Place value with decimal numbers Step 2: Regrouping decimal numbers 3LS37 – All four operations including fractions (including non-statutory decimal teaching to lay foundations for Year 4): Place value and decimals – estimation, comparing and rounding Step 1: Order and compare place value of numbers with 1 decimal place Step 2 (optional): Estimate decimal numbers Step 3 (optional): Round decimal numbers to nearest whole numbers 3LS38 – Measurement and geometry: Measures – measuring and problem solving Step 1: Measuring and comparing lengths Step 2: Measuring and comparing mass, volume and capacity Step 3: Using and comparing mixed units Step 4: Adding and subtracting involving measures Step 5: Measure problems involving scaling 3LS39 – Measurement and geometry: 3D shape building and identifying properties Step 1: Building three-dimensional shapes Step 2: Recognising three-dimensional shapes in different orientations Step 3: Describing the faces of polyhedra Step 4: Describing three-dimensional shapes Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning

