

Year 4 Maths Medium Term Plan

National Curriculum

<u>Number - Number and Place Value</u> 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	<u>Number – Addition and Subtraction</u> 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	<u>Number – Multiplication and Division</u> 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	<u>Number – Fractions (including decimals)</u> 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 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 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
<u>Measurement</u> 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 Find the area of rectilinear shapes by counting squares 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	<u>Geometry – Properties of Shape</u> 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	<u>Geometry – Position and Direction</u> 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	<u>Statistics</u> 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

Term	Counting in steps of...	Times table(s)	Essential Maths (30 steps)
1	6 1000	6	4LS1 – Number, addition and subtraction: Place value – order and compare numbers beyond 1000 Step 1: Understanding that 10 hundreds are equal to 1 thousand, 10 tens are equal to 1 hundred and 10 ones are equal to 1 ten Step 2: Finding 1000 more or less than a given number Step 3: Comparing and ordering 4-digit numbers Step 4: Regrouping 4-digit numbers flexibly 4LS2 – Number, addition and subtraction: Rounding, estimating and magnitude Step 1: Estimate number magnitude Step 2: Identify and estimate numbers using different representations Step 3: Rounding numbers to the nearest ten, hundred and thousand Step 4: Comparing and rounding numbers to the nearest ten, hundred and thousand 4LS3 – Number, addition and subtraction: Securing addition and subtraction mental fluency Step 1: Mental strategy comparison – considering appropriateness and efficiency Step 2: Developing estimation to support calculation Step 3: Extending regrouping ‘Think 100’ and ‘Think 1000’ to adding 3- and 4-digit numbers Step 4: Introducing equal sum as a mental strategy Step 5: Regrouping the minuend (the number being reduced) for subtraction Step 6: Introducing equal difference for mental subtraction Step 7: Mixed addition and subtraction practice 4LS4 – Number, addition and subtraction: Securing formal written addition and subtraction fluency Step 1: Formal addition method with no regrouping (thousands, hundreds, tens and ones) Step 2: Formal addition method with regrouping in hundreds, tens and ones Step 3: Formal addition method with regrouping in hundreds, tens and ones causing a further thousand Step 4: Finding missing numbers in formal written addition Step 5: Revisiting formal written subtraction (decomposition) Step 6: Formal written subtraction with regrouping of thousands (decomposition) Step 7: Missing number and written subtraction problems Step 8: Mixed practice 4LS5 – Multiplication and division: Counting in multiples of 6, 7, 9, 25 and 1000 Step 1: Understand that counting up in multiples is also repeated addition Step 2: Extend counting in multiples knowledge to 25s 4LS6 – Multiplication and division: Multiplication and division facts – times tables Step 1: Creating and regrouping arrays for multiplication (distributive law) Step 2: Learning multiplication facts through building arrays (developing recall) Step 3: Rehearsing and recalling multiplication facts; making links and spotting patterns Step 4: Rehearsing division facts Step 5: Laws of divisibility to help with division facts Step 6: Strategies for calculating multiplication facts

Term	Counting in steps of...	Times table(s)	Essential Maths (30 steps, 2 diagnostic papers)
2	7 1000	7	4LS7 – Multiplication and division: Factor pairs, integer scaling and correspondence problems Step 1: Understanding and finding factors Step 2: Solving integer scaling and correspondence problems Step 3: Exploring correspondence problems Step 4: Solving a range of correspondence problems Step 5: Creating their own correspondence problem 4LS8 – Multiplication and division: Problem solving including measures to apply place value, mental strategies and arithmetic laws Step 1: Addition and subtraction problems involving measures Step 2: Exploring multiplication Step 3: Linking multiplication and division on the bar model Step 4: Exploring division Step 5: Rearranging multiplication and division models and word problems Step 6: Two step problems involving all four operations 4LS9 – Multiplication and division: Multiply and divide a one or two digit number by 10 and 100 Step 1: Multiplying and dividing by 10 – investigating the effect Step 2: Multiplying and dividing by 10 – understanding the effect Step 3: Dividing by 10 – using decimal and fraction notation Step 4: Multiplying and dividing by 100 – understanding the effect, using decimal notation Step 5: Multiplying and dividing by 10 and 100 – applying learning and reasoning ideas 4LS10 – Measurement and statistics: Measure – conversion of units Step 1: Converting between units of length – understanding the calculations needed Step 2: Converting between units of mass and capacity – understanding the calculations needed Step 3: Converting hours to minutes Step 4: Converting minutes to hours and hours to minutes Step 5: Converting between units of time – understanding the calculations needed 4LS11 – Measurement and statistics: Measure – compare, estimate and calculate Step 1: Measuring, estimating and comparing length Step 2 (optional): Measuring, comparing and estimating with mass and capacity Step 3: Calculating with length, mass and capacity Step 4: Calculating time addition (hours and minutes) Step 5: Calculating time subtraction (hours and minutes) Step 6: Calculating duration of time (hours and minutes) 4LS12 – Measurement and statistics: Discrete and continuous data (time graphs), including application of scales and division Step 1: Interpreting discrete data – reading scales on pictograms and bar charts Step 2: Interpreting continuous data Step 3: Presenting data – choosing the best way to present it Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning

Term	Counting in steps of...	Times table(s)	Essential Maths (27 steps)
3	9 25	9	4LS13 – Geometry and measurement: Perimeter Step 1: Revisiting existing knowledge about perimeter Step 2: Calculating perimeter of rectangle shapes with missing sides Step 3: Solving problems involving perimeter of rectilinear shapes with missing information Step 4 (optional): Solving correspondence problems involving perimeter of rectilinear shapes 4LS14 – Geometry and measurement: Properties of shape Step 1: Revisiting properties of lines Step 2: Properties of shape – vocabulary focus Step 3: Classifying quadrilaterals Step 4: Drawing quadrilaterals 4LS15 – Geometry and measurement: Symmetry (AMALGAMATE STEPS 1 AND 2) Step 1: Recognising reflective symmetry in simple shapes Step 2: Recognising lines of symmetry in regular and irregular polygons Step 3: Constructing symmetrical shapes Step 4: Constructing quadrilaterals with a specific number of lines of symmetry 4LS16 – Decimals and measurement: Decimal numbers Step 1: Place value with decimal numbers Step 2: Regrouping decimal numbers Step 3: Order and compare place value of numbers with up to 2 decimal places Step 4: Estimate decimal numbers Step 5: Decimal equivalences to tenths, hundredths, $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$ Step 6: Round decimal numbers to nearest whole numbers Step 7: $\times$ and $\div$ by 10 and 100 4LS17 – Decimals and measurement: Calculating with decimals Step 1: Finding complements to 1 Step 2: Regrouping for addition Step 3: Regrouping for subtraction Step 4: Formal written addition Step 5: Formal written subtraction Step 6: Comparing strategies 4LS18 – Decimals and measurement: Measure - money Step 1: Calculating with money – mental and written addition Step 2: Calculating with money – mental and written subtraction

Term	Counting in steps of...	Times table(s)	Essential Maths (25 steps, 2 diagnostic papers)
4	(11) 25	11	4LS19 – Decimals and measurement: Problem solving involving decimals to two decimal places Step 1: Non-routine problem solving using decimals – using a simpler case to solve a complex problem Step 2: Non-routine problem solving using decimals – finding all possibilities Step 3: Routine problem solving 4LS20 – Fractions: Add and subtract fractions with the same denominator Step 1: Identify equal parts and whole and find complements of 1 Step 2: Add and subtract fractions with no regrouping Step 3: Add fractions with regrouping Step 4: Subtract fractions with regrouping 4LS21 – Decimals and measurement: Finding fractions of quantities Step 1: Scaling unit fractions to find fractions of quantities Step 2: Exploring the models for finding fractions of quantities Step 3: Using the whole and number of equal parts to find fractions of quantities Step 4: Use fractional reasoning to solve whole unknown problems Step 5: Relating fractions to comparison problems 4LS22 – Decimals and measurement: Fractions in the context of measure Step 1: Recognising familiar fractions expressed as measures Step 2: Ordering measures involving fractions Step 3: Mixed worded problems involving a range of measures 4LS23 – Decimals and measurement: Equivalent fractions, ordering and comparing Step 1: Compare and order a range of fractions Step 2: Showing equivalence with accurate diagrams Step 3: Exploring families of common equivalent fractions Step 4: Create equivalent fractions by multiplying and dividing 4LS24 – Multiplication: Multiply two and three digit numbers by a one digit number using a formal written layout Step 1: Multiplying multiples of ten by one-digit numbers Step 2: Multiplying multiples of one hundred by one-digit numbers Step 3: Multiplying two and three-digit numbers by one-digit numbers using distributive law (with regrouping) Step 4: Short multiplication with no regrouping Step 5: Short multiplication with regrouping in one column Step 6: Short multiplication with regrouping in one or more columns Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning

Term	Counting in steps of...	Times table(s)	Essential Maths (20 steps)
5	(12)	12	4LS25 – Division: Divide two and three digit numbers by a one digit number using a formal written layout Step 1: Long division with no regrouping Step 2: Long division with regrouping hundreds into tens Step 3: Long division with regrouping hundreds into tens and tens into ones Step 4: Short division Step 5: Mixed division rehearsal 4LS26 – Measurement: Time – read, write, calculate and convert time on analogue and digital 12 and 24 hour clocks Step 1: 12- and 24-hour clock Step 2: Understanding and calculating duration Step 3: Find unknown start or end times when duration is known Step 4: Converting hours, minutes and seconds Step 5: Converting days to weeks and months to years 4LS27 – Statistics: Statistics – interpret and present continuous and discrete data, solve problems incorporating measures Step 1: Understanding and interpreting discrete data Step 2: Identifying increase and decrease in line graphs Step 3: Time and distance graphs Step 4: Line graphs with constant relationship between variables 4LS28 – Number: Roman numerals to 100 and zero Step 1: Roman numerals to 20 Step 2: Roman numerals to 100 Step 3: Reasoning with Roman numerals 4LS29 – Number: Negative numbers – counting through zero and calculating in context Step 1: An introduction to negative numbers Step 2: Counting backwards through zero Step 3 (optional): Solving simple problems involving negative numbers

Term	Counting in steps of...	Times table(s)	Essential Maths (27 steps, 2 diagnostic papers)
6	6 7 9 25 1000	All up to 12x12	4LS30 – Geometry: Geometry – angles Step 1: Comparing and ordering angles using the benchmark of a right angle Step 2: Identifying acute and obtuse angles Step 3: Identifying acute and obtuse angles within geometric shapes 4LS31 – Geometry: Geometry – properties of angles Step 1: Describing the properties of triangles Step 2: Classifying triangles (equilateral, scalene or isosceles) Step 3: Classifying triangles according to more than one property 4LS32 – Geometry: Geometry – coordinates in the first quadrant Step 1: Using coordinates to describe position on a 2-D grid Step 2: Describing movements between positions as translations 4LS33 – Geometry: Geometry – position and direction, incorporating angles and plotting points of a shape Step 1: Plotting points to create polygons Step 2: Identifying coordinates to create polygons 4LS34 – Multiplication and division: Multiplication and division review Step 1: Times tables review Step 2: Multiplying and dividing by 10 / 100 and 1000 Step 3: Related times tables facts Step 4: Short multiplication review Step 5: Long division review Step 6: Short division 4LS35 – Multiplication and division: Area Step 1: Find area of rectilinear shapes by counting squares Step 2: Relate finding area of rectilinear shapes to arrays up to 12 x 12 Step 3: Problem solving with area Step 4: Area and perimeter 4LS36 – Fractions: Fractions review Step 1: Adding and subtracting fractions beyond 1 Step 2: Fractions of quantities with varied unknown values Step 3: Deconstructing fraction problems involving measures 4LS37 – Problem solving: Application and problem solving – developing operation sense Step 1: Number sequences Step 2: Number patterns and relationships Step 3: Working systematically and finding all possibilities Step 4: Solving logic problems Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning