Maths Learning Sequence Document Year 3/4 –2024 / 2025

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| National Curriculum KS2, pupils should be taught to: |
| * Pupils become increasingly fluent in with whole numbers and the 4 operations including number facts and the concept of place value
* Pupils develop efficient written and mental methods and perform calculations with increasingly large whole numbers
 | * Pupils should develop their ability to solve a range of problems including with simple fractions and decimal place value
 | * Pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties and confidently describe the relationships between them.
* Ensure they can use measuring instruments with accuracy and make connections between number and measure
 | * By the end of Year 4, pupils should have memorized their times tables up to and including the 12 multiplication table and show precision and fluency in their work
* Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling
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| 4 Stages of lesson | Recap of previous learningFluency  | I do, We do, You do – guided practice  | Independent Practice | Assessment to inform planning  |
| Term | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **Topic** | **Place Value** | **Addition and Subtraction** | **Multiplication and division (A)** | **Area** | **Multiplication and Division (B)** | **Length and Perimeter** | **Fractions A** | **Mass and Capacity** | **Fractions B** | **Time** | **Decimals** | **Money** | **Shape** | **Position and Directions** | **Statistics** |
| Prior Learning – End of Year 2 | count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backwardrecognise the place value of each digit in a two-digit number (10s, 1s)identify, represent and estimate numbers using different representations, including the number linecompare and order numbers from 0 up to 100; use <, > and = signsread and write numbers to at least 100 in numerals and in wordsuse place value and number facts to solve problems | solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methodsrecall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and 1s, a two-digit number and 10’s, 2 two-digit numbers, adding 3 one-digit numbersshow that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannotrecognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognizing odd and even numbers Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the correct symbolsShow that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot  |  | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context | Choose and use appropriate standard units to estimate and measure length/height in any direction using rulers Compare and order lengths  | Recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity Write simple fractions for example ½ of 6 = 3 and recognize the equivalence of 2/4 and ½  | Choose and use appropriate standard units to estimate and measure mass (kg/g)Compare and order mass and capacity/volume |  | Compare and sequence intervals of time Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these timesKnow the minutes in an hour and the number of hours in a day. |  | Recognise and use symbols pounds (£) and pence (p); combine amounts to make a particular valueFind different combinations of coins that equal the same amounts of moneySolve simple problems in practical context inv addition and subtraction of money of the same unit giving change | identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical lineidentify and describe the properties of 3-D shapes, including the number of edges, vertices and facesidentify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]compare and sort common 2-D and 3-D shapes and everyday objects | order and arrange combinations of mathematical objects in patterns and sequencesuse mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) | interpret and construct simple pictograms, tally charts, block diagrams and tablesask and answer simple questions by counting the number of objects in each category and sorting the categories by quantityask-and-answer questions about totalling and comparing categorical data |
| Small Steps | Hundreds, tens and onesRepresent numbers to 1,000Partition numbers to 1,000ThousandsRepresent numbers to 10,000Partition numbers to 10,000Flexible partitioningFind 1, 10, 100, 1000 more or lessNumber lines to 1,000Number lines to 10,000Estimate on a number lineCompare numbersOrder numbersRound to the nearest 10Round to the nearest 100Round to the nearest 1000Round to the nearest 10,100 and 1000Roman Numerals  | Add and subtract 1’s, 10’s, 100’s, 1000’s Add 1’s, 10’s, 100’s and 1000’s across a boundarySubtract 1’s, 10’s, 100’s and 1000’s across a boundaryMake connectionsAdd up to 2 4 digit numbers – no exchangeAdd up to 2 4-digit numbers (across a 10)Add up to 2 4-digit numbers (across 100)Add up to 2 4-digit numbers (across 1000)Add numbers with a different number of digitsSubtract up to 2 4-digit numbers no exchangeSubtract up to 2 4-digit numbers (across 10)Subtract up to 2 4-digit numbers (across 100)Subtract up to 2 4 digit numbers (across 1000)Subtract numbers with different numbers of digitsComplements to 100 and 1000Estimate answersInverse operationsEfficient methods  |  ArraysSharing and groupingThe 2,5 and 10 times tablesThe 4 times tablesThe 8 times tablesThe 2,4 and 8 times tablesThe 3 times tablesThe 6 times tablesThe 9 times tablesThe 3,6 and 9 times tablesThe 7 times tablesThe 11 times tablesThe 12 times tablesMultiply by 1 and 0Divide a number by 1 and itself | What is area?Count squaresMake shapesCompare areas | Factor pairsMultiply and divide by 10 and 100Reasoning about multiplicationMultiply 3 numbersEfficient multiplicationScalingCorrespondence problemsMultiply up to 3 digits by 1 digit – no exchangeMultiply up to 3 digits – exchangeRelated calculationsDivide by a 1 digit number – flexible partitioningDivide up to 3 digit number by 1 digit – no exchangeDivide up to 3 digits by 1 digit – exchangeDivide up to 3 digits by 1 digit – with remainders | Measure in cm and mmMeasure in km and mKm, m, cm, mmEquivalent lengthsAdd and subtract lengthsWhat is perimeter?Calculate perimeterPerimeter of rectilinear shapesCalculate perimeter of rectilinear shapesPerimeter of polygons | Understand denominatorsCompare and order unit fractionsUnderstand numeratorsUnderstand the wholeFractions on a number lineCompare and order non-unit fractionsEquivalent fractionsCount beyond 1Partition a mixed numberCompare and order mixed numbersUnderstand improper fractionsConvert mixed numbers to improper fractionsConvert improper fractions to mixed numbersEquivalent fraction families | Measure mass in gramsMeasure mass in kg and gEquivalent massesCompare massAdd and subtract massMeasure capacity and volume in mlMeasure capacity and volume in ml and lEquivalent capacities and volumeCompare capacity and volumeAdd and subtract capacity and volume | Add fractionsAdd fractions and mixed numbersSubtract fractionsSubtract from whole amountsSubtract from mixed numbersUnit fractions of amountNon-unit fractions of amountReasoning with fractions of amount | Tell the time to 5 minutesTell the time to the minuteRead time of a digital clockUse am and pmConvert between analogue and digital timesConvert between 12 and 24 hour clock timesHours, minutes and secondsFind and use durationsYears, months, weeks and days | Tenths as fractionsTenths as decimalsTenths on a PV chartTenths on a number lineHundredths as fractionsHundredths as decimalsHundredths on a PV chartHalves and quarters as decimalsMake a wholePartition decimalsCompare and order decimalsRound to the nearest whole numberDivide a number by 10Divide a number by 100 | Pound and penceWrite money using decimalsConvert pound and penceCompare amounts of moneyEstimate with moneyAdd moneySubtract moneyFind changeSolve problems with money | Turns and anglesIdentify anglesCompare and order anglesTypes of linesTrianglesQuadrilateralsPolygonsDraw polygonsSymmetry3-D shapes | Describe position using coordinatesPlot coordinatesDraw 2D shapes on a gridTranslate on a gridDescribe translation on a grid | PictogramsInterpret bar chartsDraw bar chartsInterpret line graphsDraw line graphsComparison, sum and differenceTwo-way tablesCollect and represent data |
| Declarative Knowledge - KIRFS | Year 3: To know number bonds for all numbers to 20Year 4:To know number bonds to 100 | Year 3:To know the multiplication and division facts for the 4 times tableYear 4:To know the multiplication and division facts for the 6 times table | Year 3:To know the multiplication and division facts for the 8 times tableYear 4:To know the multiplication facts for 9 and 11 times tables | Year 3:To recall facts about duration of timeYear 4:To know the multiplication and division facts for 7 times tables | Year 3:To know the multiplication and division facts for the 3 times tableYear 4: To multiply and divide single digit numbers by 10 and 100  | Year 3:To tell the time to the nearest 5 minutesYear 4:To recall decimal equivalents of fractions |
| NewVocabulary | Numbers to 10,000, Round to the nearest, Thousand more or less than, negative integers, count through zero, Roman numerals (I-C)Column addition and subtractionExchange, complements, inverse, efficient, methods  | Multiplication facts up to 12 x 12 Division facts, product, scale up, inverse, derive | ConvertNumerator, denominator, unit fraction, non-unit fraction, compare and order, tenths, equivalent | ConvertNumerator, denominator, unit fraction, non-unit fraction, compare and order, tenths, equivalent, capacity, mass, volume | Right angle, acute angle, obtuse angleTenths, hundredths, compare and order, Perpendicular and parallel lines, quadrilaterals, triangles | Greater/less than ninety degrees, Orientation, Horizontal, perpendicular and parallel lines, Chart, Bar chart, frequency table, carroll diagram, venn diagram, axis, continuous data, line graph, co-ordinates, translation, quadrant, x axis, y axis |
| End Point (NC) | **Year 3:**count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given numberrecognise the place value of each digit in a 3-digit number (100s, 10s, 1s)compare and order numbers up to 1,000identify, represent and estimate numbers using different representationsread and write numbers up to 1,000 in numerals and in wordssolve number problems and practical problems involving these ideasadd and subtract numbers mentally, including: a three-digit number and 1s a three-digit number and 10s a three-digit number and 100sadd and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtractionestimate the answer to a calculation and use inverse operations to check answerssolve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction* recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

**Year 4:**count in multiples of 6, 7, 9, 25 and 1,000find 1,000 more or less than a given numbercount backwards through 0 to include negative numbersrecognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s)order and compare numbers beyond 1,000identify, represent and estimate numbers using different representationsround any number to the nearest 10, 100 or 1,000solve number and practical problems that involve all of the above and with increasingly large positive numbersread Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place valueadd and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriateestimate and use inverse operations to check answers to a calculationsolve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why* 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 3 numbers
 | **Year 3**: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 methodssolve 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**Year 4:**Find the area of rectilinear shapes by counting squaresrecognise and use factor pairs and commutativity in mental calculationsmultiply two-digit and three-digit numbers by a one-digit number using formal written layoutsolve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects |  **Year 3**:Measure the perimeter of simple 2D shapescount 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 10recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominatorsrecognise and use fractions as numbers: unit fractions and non-unit fractions with small denominatorsrecognise and show, using diagrams, equivalent fractions with small denominators**Year 4:**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 metresfind the area of rectilinear shapes by counting squaresrecognise and show, using diagrams, families of common equivalent fractions | **Year 3:**measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocksestimate 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, am/pm, morning, afternoon, noon and midnightknow the number of seconds in a minute and the number of days in each month, year and leap yearcompare durations of events [for example, to calculate the time taken by particular events or tasks]Add and subtract fractions with the same denominator within one whole [for example,  +  =  ]compare and order unit fractions, and fractions with the same denominatorssolve problems that involve all of the above**Year 4:**read, write and convert time between analogue and digital 12- and 24-hour clockssolve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to dayscount up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole numberadd and subtract fractions with the same denominator |  **Year 3**:add and subtract amounts of money to give change, using both £ and p in practical contextsdraw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe themrecognise angles as a property of shape or a description of a turnidentify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angleidentify horizontal and vertical lines and pairs of perpendicular and parallel lines **Year 4**:recognise and write decimal equivalents of any number of tenths or hundredsrecognise and write decimal equivalents to  ,  , 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 hundredthsround decimals with 1 decimal place to the nearest whole numbercompare numbers with the same number of decimal places up to 2 decimal placessolve simple measure and money problems involving fractions and decimals to 2 decimal placesestimate, compare and calculate different measures, including money in pounds and pencecompare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizesidentify acute and obtuse angles and compare and order angles up to 2 right angles by sizeidentify lines of symmetry in 2-D shapes presented in different orientationscomplete a simple symmetric figure with respect to a specific line of symmetry | **Year 3:**interpret and present data using bar charts, pictograms and tablessolve 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**Year 4:**describe positions on a 2-D grid as coordinates in the first quadrantdescribe movements between positions as translations of a given unit to the left/right and up/downplot specified points and draw sides to complete a given polygoninterpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphssolve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs |
| Assessment | **WR Block Assessments/Target Tracker** | **Maths.co.uk/Target Tracker** | **WR Block Assessment/Target Tracker** | **Maths.co.uk/Target Tracker** | **WR Block Assessment/Target Tracker** | Maths.co.uk/Target Tracker |