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 | | | | |
| 4 Stages of lesson | Recap of previous learning  Fluency | | | | | 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 backward  recognise the place value of each digit in a two-digit number (10s, 1s)  identify, represent and estimate numbers using different representations, including the number line  compare and order numbers from 0 up to 100; use <, > and = signs  read and write numbers to at least 100 in numerals and in words  use 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 methods  recall 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 numbers  show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot  recognise 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 symbols  Show 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 times  Know 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 value  Find different combinations of coins that equal the same amounts of money  Solve 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 line  identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces  identify 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 sequences  use 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 tables  ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity  ask-and-answer questions about totalling and comparing categorical data |
| Small Steps | Hundreds, tens and ones  Represent numbers to 1,000  Partition numbers to 1,000  Thousands  Represent numbers to 10,000  Partition numbers to 10,000  Flexible partitioning  Find 1, 10, 100, 1000 more or less  Number lines to 1,000  Number lines to 10,000  Estimate on a number line  Compare numbers  Order numbers  Round to the nearest 10  Round to the nearest 100  Round to the nearest 1000  Round to the nearest 10,100 and 1000  Roman Numerals | Add and subtract 1’s, 10’s, 100’s, 1000’s  Add 1’s, 10’s, 100’s and 1000’s across a boundary  Subtract 1’s, 10’s, 100’s and 1000’s across a boundary  Make connections  Add up to 2 4 digit numbers – no exchange  Add 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 digits  Subtract up to 2 4-digit numbers no exchange  Subtract 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 digits  Complements to 100 and 1000  Estimate answers  Inverse operations  Efficient methods | Arrays  Sharing and grouping  The 2,5 and 10 times tables  The 4 times tables  The 8 times tables  The 2,4 and 8 times tables  The 3 times tables  The 6 times tables  The 9 times tables  The 3,6 and 9 times tables  The 7 times tables  The 11 times tables  The 12 times tables  Multiply by 1 and 0  Divide a number by 1 and itself | What is area?  Count squares  Make shapes  Compare areas | | Factor pairs  Multiply and divide by 10 and 100  Reasoning about multiplication  Multiply 3 numbers  Efficient multiplication  Scaling  Correspondence problems  Multiply up to 3 digits by 1 digit – no exchange  Multiply up to 3 digits – exchange  Related calculations  Divide by a 1 digit number – flexible partitioning  Divide up to 3 digit number by 1 digit – no exchange  Divide up to 3 digits by 1 digit – exchange  Divide up to 3 digits by 1 digit – with remainders | Measure in cm and mm  Measure in km and m  Km, m, cm, mm  Equivalent lengths  Add and subtract lengths  What is perimeter?  Calculate perimeter  Perimeter of rectilinear shapes  Calculate perimeter of rectilinear shapes  Perimeter of polygons | Understand denominators  Compare and order unit fractions  Understand numerators  Understand the whole  Fractions on a number line  Compare and order non-unit fractions  Equivalent fractions  Count beyond 1  Partition a mixed number  Compare and order mixed numbers  Understand improper fractions  Convert mixed numbers to improper fractions  Convert improper fractions to mixed numbers  Equivalent fraction families | | Measure mass in grams  Measure mass in kg and g  Equivalent masses  Compare mass  Add and subtract mass  Measure capacity and volume in ml  Measure capacity and volume in ml and l  Equivalent capacities and volume  Compare capacity and volume  Add and subtract capacity and volume | Add fractions  Add fractions and mixed numbers  Subtract fractions  Subtract from whole amounts  Subtract from mixed numbers  Unit fractions of amount  Non-unit fractions of amount  Reasoning with fractions of amount | Tell the time to 5 minutes  Tell the time to the minute  Read time of a digital clock  Use am and pm  Convert between analogue and digital times  Convert between 12 and 24 hour clock times  Hours, minutes and seconds  Find and use durations  Years, months, weeks and days | Tenths as fractions  Tenths as decimals  Tenths on a PV chart  Tenths on a number line  Hundredths as fractions  Hundredths as decimals  Hundredths on a PV chart  Halves and quarters as decimals  Make a whole  Partition decimals  Compare and order decimals  Round to the nearest whole number  Divide a number by 10  Divide a number by 100 | Pound and pence  Write money using decimals  Convert pound and pence  Compare amounts of money  Estimate with money  Add money  Subtract money  Find change  Solve problems with money | | | Turns and angles  Identify angles  Compare and order angles  Types of lines  Triangles  Quadrilaterals  Polygons  Draw polygons  Symmetry  3-D shapes | Describe position using coordinates  Plot coordinates  Draw 2D shapes on a grid  Translate on a grid  Describe translation on a grid | Pictograms  Interpret bar charts  Draw bar charts  Interpret line graphs  Draw line graphs  Comparison, sum and difference  Two-way tables  Collect and represent data |
| Declarative Knowledge - KIRFS | Year 3:  To know number bonds for all numbers to 20  Year 4:  To know number bonds to 100 | | | Year 3:  To know the multiplication and division facts for the 4 times table  Year 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 table  Year 4:  To know the multiplication facts for 9 and 11 times tables | | | Year 3:  To recall facts about duration of time  Year 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 table  Year 4:  To multiply and divide single digit numbers by 10 and 100 | | | | | Year 3:  To tell the time to the nearest 5 minutes  Year 4:  To recall decimal equivalents of fractions | |
| New  Vocabulary | 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 subtraction  Exchange, complements, inverse, efficient, methods | | | Multiplication facts up to 12 x 12  Division facts, product, scale up, inverse, derive | | | Convert  Numerator, denominator, unit fraction, non-unit fraction, compare and order, tenths, equivalent | | | Convert  Numerator, denominator, unit fraction, non-unit fraction, compare and order, tenths, equivalent, capacity, mass, volume | | | Right angle, acute angle, obtuse angle  Tenths, 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 number  recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)  compare and order numbers up to 1,000  identify, represent and estimate numbers using different representations  read and write numbers up to 1,000 in numerals and in words  solve number problems and practical problems involving these ideas  add and subtract numbers mentally, including: a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s  add and subtract numbers with up to 3 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   * 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 1,000  find 1,000 more or less than a given number  count backwards through 0 to include negative numbers  recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s)  order and compare numbers beyond 1,000  identify, represent and estimate numbers using different representations  round any number to the nearest 10, 100 or 1,000  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 0 and place value  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   * 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 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  **Year 4:**  Find the area of rectilinear shapes by counting squares  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 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 shapes  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  **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 metres  find the area of rectilinear shapes by counting squares  recognise 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 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, am/pm, 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]  Add and subtract fractions with the same denominator within one whole [for example,  +  =  ]  compare and order unit fractions, and fractions with the same denominators  solve problems that involve all of the above  **Year 4:**  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  count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10  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 | | | **Year 3**:  add and subtract amounts of money to give change, using both £ and p in practical contexts  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 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 angle  identify horizontal and vertical lines and pairs of perpendicular and parallel lines  **Year 4**:  recognise and write decimal equivalents of any number of tenths or hundreds  recognise 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 hundredths  round decimals with 1 decimal place to the nearest whole number  compare numbers with the same number of decimal places up to 2 decimal places  solve simple measure and money problems involving fractions and decimals to 2 decimal places  estimate, compare and calculate different measures, including money in pounds and pence  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 2 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 | | | | | **Year 3:**  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  **Year 4:**  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  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 | |
| 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 | |