Moor House School & College Curriculum Map

YEAR GROUP/PATHWAY: C4				*SUBJECT AREA: Maths*
Autumn 1	**Topic 1**	**Topic 2**	**Topic 3**	**Topic 4**
Knowledge	**Number and Place Value (NPV)**	**Addition and Subtraction (AS)**	**Multiplication and Division (MD)**	**Measures (MEA)**
Skills	• Recognise the place value of each digit in a 4-digit number (1000s, 100s, 10s, and 1s); order and compare numbers with up to 4 digits. • Begin to place 4-digit numbers on number lines and round these to the nearest 10, 100 or 1000. *Example: 4782 rounds to 4780, 4800, 5000*	*653* Know bonds to the next 100. *Example: 54 + 46, 653 + 47* • Use place value and number facts to add numbers with up to 4 digits, including fluency in adding any pair of 2-digit numbers. *Example: 147 + 36, 4286 + 199* • Use counting up to subtract numbers with up to 3 digits crossing one multiple of 100. *Example: 134 – 88, 809 – 742* • Choose a method to subtract that is appropriate to the numbers in the calculation. *Example: 456 – 199, 134 – 88, 134 – 6* • Use column addition to add 3-digit numbers; begin to add 4-digit numbers. • Use expanded column subtraction to subtract 3-digit numbers. *Example: 376 – 263, 838 – 556* • Use logical thinking to look for patterns in numbers. *Example: 1234 + 7890, 8765 + 3210*	• Use the distributive law to multiply 2-digit numbers by a 1-digit number using formal written layout or mental methods. *Example: 4 × 65, 94 × 7* • Recall multiplication and division facts for multiplication tables, for 2, 5, 10, 3, 4, 8, 6- and 9-times tables.	• Read, write and convert time between analogue and digital 12-hour clocks. *Example: 6:05 = five minutes past six* • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. *Example: 1 minute 23 seconds = 83 seconds 231 minutes = 3 hours 51 minutes* • Read scales to the nearest 100 g and draw a bar chart where one step represents 100. • Solve simple measures problems and convert between different units of measure – mm, cm, m; ml, l; g, kg. *Example: 0·7 L = □□ml Write 1250 g in kilograms.*

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Vocabulary	• Place value (ones, tens, hundreds & thousands) • Numbers in words • Rounding	• Multiples • Number bonds • Column Addition • Column Subtraction • Expanded form	• Distributive law • Multiplication/Division Facts	• Read/write and convert time. • Analogue & digital • Reading Scales (grams) • Measure problems • Converting units
Autumn 2	**Topic 1**	**Topic 2**	**Topic 3**	**Topic 4**
Knowledge	**Addition and Subtraction (AS)**	**Multiplication and Division (MD)**	**Fractions, Decimals, Ratio and Percentages (FDRP)**	**Measures and Statistics (MEA and STA)**
Skills	• Solve addition and subtraction problems for numbers with up to 3-digits, including in contexts of word problems, deciding which written or mental operations and methods to use and why. *Example: 354 + 205, 402 – 378* • Use column addition to add 3-digit numbers; begin to add 4-digit numbers. • Use expanded column subtraction to subtract 3-digit numbers. *Example: 376 – 263, 838 – 556*	• Use table facts and commutativity to perform multiplications involving multiples of 10. Example: 40 × 6, 300 × 8 • Use the distributive law to multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout (grid). Example: 3 × 34, 7 × 145 • Double and halve 3-digit numbers using partitioning and be able to describe, explain and predict patterns. Example: Halve 684. Write a doubles chain past 1000 and write about the pattern in the units digits. • Begin to use place value and known and derived facts to divide numbers above tables facts. Example: 56 ÷ 4, 176 ÷ 8 • Work systematically and predict patterns.	• Find unit fractions of amounts. *Example: 1/4 of 24, 1/8 of 32* • Begin to recognise and show families of common equivalent fractions. • Count in fractions, expressing each fraction in its simplest form. • Recognise and write decimal and fraction equivalents of tenths and a 1/2.	• Solve simple measures problems and convert between different units of measure – mm, cm, m; ml, l; g, kg. Example: 0·7 L = ??ml Write 1250 g in kilograms. • Use mathematical reasoning to answer a question by collecting, displaying and interpreting data in a frequency table and bar chart, choosing an appropriate scale.

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Vocabulary	• Addition/Subtraction using appropriate strategy • Number pairs to 100 • Adding 3- & 4-digit numbers • Subtract 3-digit numbers	• Multiples of 10 • Commutative law • Doubling and Halving 3- digit numbers • Partitioning • Multiplication/Division facts	• Unit fractions of amounts • Equivalent fraction families • Counting in fractions • Decimal and fraction equivalents	Solving simple measure problems. Converting units Collecting, displaying & interpreting data.

Spring 1	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
Knowledge	**Number and Place Value (NPV)**	**Addition and Subtraction (AS)**	**Multiplication and Division (MD)**	**Fractions, Decimals, Ratio and Percentages (FDRP)**	**Measures and Geometry (MEA and GEO)**
Skills	Count on and back in multiples of 6, 7, 9, 25 and 1000 and work systematically, predicting and explaining patterns. Place 4-digit numbers on number lines, recognise the place value of each digit and round these to the nearest 10, 100 or 1000. *Example:7236 rounds to 7240, 7200, 7000*	• Add and subtract 1s, 10s or 100s from numbers with up to 4 digits crossing multiples of 10, 100, or 1000. *Example: 8417 + 66, 3460 – 403* • Use counting up subtraction to subtract 3-digit numbers and 4-digit numbers from multiples of 1000 and describe and explain patterns in digit sums. *Example: 1000 – 347, 4000 – 2693* • Use compact column subtraction to subtract 3-digit numbers. Example:642 – 326, 951 – 647 • Add and subtract numbers with up to 4 digits using formal columnar addition	• Recognise and use factor pairs and commutativity in mental calculations, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10. *Example: 4 × 60, 240 ÷ 6* • Recall multiplication and division facts for multiplication tables, for 2, 3, 4, 5, 6, 7, 8, 9- and 10-times tables. • Use doubling and halving to multiply and divide by 4, and to multiply by 5 and 20. *Example: 636 ÷ 4, 246 × 20* • Multiply 2-digit and 3-digit numbers by a 1-digit number using a formal written layout (vertical	• Recognise and show families of common equivalent fractions and begin to compare fractions with non-like denominators. • Solve simple problems involving fractions and find non-unit fractions of amounts where the answer is a whole number. *Example: 3/4 of 48, 4/5 of 30*	• Begin to convert between metric units of length, e.g. kilometres to metres, and solve problems involving different measures. *Example: Fred has run 645 m of a 2 km race when he slips. How far does he have to go?* • Identify acute and obtuse angles and compare and order angles up to 2 right angles by size. • Draw shapes with given properties and explain reasoning. *Example:- Acute/obtuse angles- Parallel sides* • Identify lines of symmetry in 2D shapes presented in different orientations.

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		and subtraction methods. *Example: 603 + 526, 4001 – 3675* • Identify the calculation(s) needed to solve a word problem. *Example: Amy wins 4214 points in a game. She finds 6 trophies worth 250 points each. What is her new score?*	algorithm – ladder). *Example:3 × 154, 6 × 257* • Use place value and known and derived facts to divide numbers above table facts.		• Complete a simple symmetric figure with respect to a specific line of symmetry.
Vocabulary	• Counting on • Counting back • 4-digit numbers • Place value • Number lines • Round to 10, 100 or 1000.	• Add/subtract 1,10 and 100. • Subtracting (counting up) • Subtracting 3-digit (column method) • Add/subtract 4-digit numbers.	• Multiplication/Division facts • Factor pairs. • Doubling/Halving • Multiplication and division • Multiplication/division facts	• Non-unit fractions of amounts. • Common equivalent fractions • Comparing fractions • Non-like denominators.	• Converting metric units • Identify, order and compare angles. • Properties of shapes.
Spring 2	**Topic 1**	**Topic 2**	**Topic 3**	**Topic 4**	**Topic 5**
Knowledge	**Number and Place Value (NPV)**	**Addition and Subtraction (AS)**	**Multiplication and Division (MD)**	**Fractions, Decimals, Ratio and Percentages (FDRP)**	**Measures and Geometry (MEA and GEO)**
Skills	• Place 4-digit numbers on number lines, recognise the place value of each digit and round these to the nearest 10, 100 or 1000. Example:7236 rounds to 7240, 7200, 7000 • Explain and justify reasoning about what	• Add and subtract 1s, 10s or 100s from numbers with up to 4 digits crossing multiples of 10, 100, or 1000. *Example: 8417 + 66, 3460 – 403* • Use compact column subtraction to subtract 3-	• Recall multiplication and division facts for multiplication tables, for 2, 3, 4, 5, 6, 7, 8, 9 and 10 times tables. • Multiply 2-digit and 3-digit numbers by a 1-digit number using a formal written layout (vertical	• Begin to multiply and divide numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid and identify the value of the digits in the answer as ones, tenths and hundredths.	• Estimate, compare and calculate different measures, including solving simple money problems involving decimals to 2 decimal places. *Example: The Smiths have £30 to buy games. They buy 6 jigsaws, each costing*

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	happens when numbers are multiplied and divided by 10. *Example: Explain rules and patterns when dividing 2-digit numbers and 3-digit multiples of 10 × 10.* • Add amounts of money mentally using place value and number facts.	digit numbers. *Example: 642 – 326, 951 – 647* • Add 2 numbers with up to 4 digits using the formal written method of columnar addition, including answers that are greater than 10 000. *Example: 3416 + 756, 2370 + 7630* • Use column addition to add several 2-digit numbers. *Example:24 + 76 + 58* • Investigate and reason methodically and systematically. • Add and subtract numbers with up to 4 digits using formal columnar addition and subtraction methods. *Example: 603 + 526, 4001 – 3675* • Solve addition and subtraction 2-step problems in context. *Example: 345 people were on a ride. If 128 get off*	algorithm – ladder). Example: 3 × 154 6 × 257 • Use place value and known and derived facts to divide numbers above table facts. • Notice patterns; make and test predictions. *Example: 234 × 9, 456 × 9. Predict and explain the patterns.*	• Compare two 1-place decimals, place on a line and round decimals with 1 decimal place to the nearest whole number. *Example: 3·05 < 3·45 < 3·54 < 3·75·9 rounds to 6*	*£4·39. Roughly how much would that be?* • *Solve simple problems involving finding the perimeter of rectilinear shapes. Example: 8 + 4 + 8 + 4 = 24 cm or double 12 = 24 cm, 9 + 11 + 9 + 11 = 40 cm or 18 cm + 22 cm = 40 cm* • Read, write and convert time between analogue and digital 12- and 24-hour clocks. *Example: 1 o'clock = 13:00, 3:45 pm = 15:45 = quarter to 4 in the afternoon*

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		and 143 get on, how many are on the ride now? • Read and interpret addition word problems.			
Vocabulary	• Number line • Place value • Rounding to 10, 100 and 1000 • Multiplying/dividing by 10 • Adding money mentally • Number facts	• Add/subtract 1,10 and 100. • Subtracting using counting up. • Column method (subtraction & addition)	• Multiplication/division facts • Multiply and divide • Patterns • Predictions.	• Multiply and divide numbers by 10 and 100 • Compare numbers • Rounding • Decimals • Whole	• Estimate, compare and calculate. • measures • Money problems • Analogue time • Digital time • 12- and 24-hour clocks
Summer 1	**Topic 1**	**Topic 2**	**Topic 3**	**Topic 4**	**Topic 5**
Knowledge	**Number and Place Value (NPV)**	**Addition and Subtraction (AS)**	**Multiplication and Division (MD)**	**Fractions, Decimals, Ratio and Percentages (FDRP)**	**Measures and Geometry (MEA and GEO)**
Skills	• Find 1, 10, 100 and 1000 more or less than a given number. Example: 5720 – 1000, 8065 + 10 • Count backwards through zero to include negative numbers; use knowledge of factors and reasoning to solve problems. *Example: You have £30 in your bank and then spend £50 on your bank card. How much money is left in your bank?*	• Use counting up and subtraction to find change or solve money problems. *Example: £10 – £4·25 £38·54 – £15·75* • Use inverse operations to check answers to a calculation. • Use logical reasoning to create additions of 4-digit numbers to a given total. *Example: Write 4-digit + 4-digit column additions that equal 10 000.*	• Use place value and known and derived facts to multiply 2-digit and 3-digit numbers by a 1-digit number (including multiplying by 0 and 1) and to multiply three 1-digit numbers. *Example:199 × 3, 2 × 3 × 5* • Use a written method to multiply amounts of money by 1-digit numbers. *Example:4 × £4·67, 7 × £3·27*	• Use equivalent fractions to simplify and compare fractions with non-like denominators. E*xample: 4/6 = 2/3, 8/10 = 4/5* • Recognise that tenths and hundredths arise when dividing by 10 and 100; multiply decimal numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid. *Example: 213 ÷ 100 = 2·1312·3 ÷ 10 = 2·13*	• Convert between different metric units of measure, e.g. km to m; solve problems involving different measures. *Example: True or false*? *Five 200 g weights are the same as 1 kg.* • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. *Example: 6 + 6 + 6 + 6 = 24 cm / 4 × 6 = 24 cm*

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	• Order and compare numbers beyond 1000. *Example: 3421 > 2167 4892 < 9173* • Identify, represent and estimate numbers using different representations • 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. • Solve number and practical problems with increasingly large positive numbers. *Example: It is approximately 4591 km from Istanbul to Delhi, and 1770 km from Delhi to Chennai. Abdul travels from Istanbul to Chennai, via Delhi. How far does he travel altogether?*		• Estimate and use inverse operations to check answer to a multiplication or division calculation. *Example:76 ÷ 4 = □, □□× 4 = 76, 78 ÷ 3 = □, □□× 3 = 78* • Multiply 2- and 3-digit numbers by a 1-digit number using formal written layout where appropriate. *Example: 294 × 6, 648 × 7* • Use doubling and halving to multiply and divide mentally. *Example:45 × 6, 432 ÷ 8*	• Count up and down in tenths and hundredths. • Compare numbers with up to 2 decimal places, identify the value of the digits as ones, tenths and hundredths, and round decimal numbers to the nearest whole. *Example: 6 ÷ 10 = 0·6, 0.04 × 100 = 4* • Solve simple measure and money problems using fractions and decimals to 2 decimal places. *Example: One shampoo bottle contains 400 ml and another contains 0·3 L. Which holds more? By how much?* • Add and subtract 0·1 and 0·01. *Example: 6·9 + 0·19·17 – 0·01*	• Find the area of rectilinear shapes. • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
Vocabulary	• 1, 10, 100 and 1000 more or less • Negative numbers • Ordering and comparing numbers	• Counting up and subtraction to find change • Money problems • Inverse operations • Checking answers	• Multiplication using 2 and 3-digit numbers. • Estimating and using inverse to check calculations • Doubling and halving.	• Equivalent fractions. • Simplifying and comparing • Dividing by 10 and 100. • Tenths and hundredths. • Whole number	• Metric units, e.g. km and m. • Perimeter • Rectilinear shapes • Area • Geometric shapes

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	• Identify, estimate and represent numbers • Roman Numerals			• More or less.	• Quadrilaterals • Triangles
Summer 2	**Topic 1**	**Topic 2**	**Topic 3**		**Topic 4**
Knowledge	**Addition and Subtraction (AS)**	**Multiplication and Division (MD)**	**Fractions, Decimals, Ratio and Percentages (FDRP)**		**Measures, Geometry and Statistics (MEA, GEO and STA)**
Skills	• Confidently add numbers with up to 4 digits using place value and number facts, including fluency in adding any pairs of 2-digit numbers. *Example:38 + 45, 2649 + 741* • When appropriate, use counting up to subtract numbers with up to 4 digits. *Example: 2001 – 1865, 4010 – 2968* • Add numbers with up to 4 digits using the formal written method of columnar addition. *Example: 3861 + 4513* • Subtract numbers with up to 4 digits using the formal written method of expanded or compact columnar subtraction. Example:7842 – 3498, 6347 – 5192	• Multiply 2- and 3-digit numbers by a 1-digit number using formal written layout where appropriate. *Example: 294 × 6, 648 × 7* • Multiply 2-digit numbers by 2-digit numbers using the distributive law (grid method). • Use place value and known and derived facts to divide larger numbers (answers up to 50) including dividing by 1. *Example: 83 ÷ 3, 432 ÷ 8*	• Find non-unit fractions of amounts and solve problems involving harder fractions to calculate quantities. *Example: 4/5 of 85, 7/9 of 18* • Recognise that tenths and hundredths arise when dividing by 10 and 100; multiply decimal numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid. *Example: 213 ÷ 100 = 2·13, 12·3 ÷ 10 = 2·13* • Solve simple measure and money problems using fractions and decimals to 2 decimal places. *Example: One shampoo bottle contains 400 ml and another contains 0·3 L. Which holds more? By how much?* • Add and subtract 0.1 and 0.01. *Example: 6.9 + 0.1, 9.17 – 0.01.*		• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. *Example: 6 + 6 + 6 + 6 = 24 cm / 4 × 6 = 24 cm* • Solve problems involving money. *Example: 4/5 of £30, 6 × £6·05* • Describe positions on a 2D grid as coordinates in the first quadrant. • Describe movements between positions as translations of a unit 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

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				charts, pictograms, tables and other graphs.
Vocabulary	• 4-digit numbers • Counting up to subtract numbers • Column addition/subtraction up to 4-digit numbers. • Number problems.	• Formal multiplication methods • Distributive law • Place value • Division	• Non-unit fractions of amounts. • Dividing by 10 and 100 • Tenths and hundredths • Money and measures.	• Perimeter • Rectilinear shapes e.g. squares. • Money • Position and coordinates • 2D grid • Polygon • Discrete and continuous data, e.g. bar charts and time graphs. • Sum and difference •