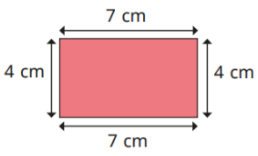
Mathematics Teaching sequence – Year 4

Year 4		
Autumn Term (7 weeks + 7 weeks = 14 weeks)	**Small steps**	**Key vocab**
Number and Place value (4 weeks) **4N1** Count in multiples of 6, 9, 25 and 1000 **4N2** Order and compare numbers beyond 1000 **4N2b** Find 1000 more or less than a given number **4N3a** Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones) **4N4a** Identify, represent and estimate numbers using different representations **4N4b** Round any number to the nearest 10, 100 or 1000 **4N5** Count backwards through zero to include negative numbers **4N6** Solve number and practical problems that involve **4N1-4N5** and with increasingly large positive numbers.	Represent numbers to 1,000 Partition numbers to 1,000 Number line to 1,000 Thousands Represent numbers to 10,000 Partition numbers to 10,000 Flexible partitioning of numbers to 10,000 Find 1,10,100, 1,000 more or less Number line to 10,000 Estimate on a number line to 10,000 Compare numbers to 10,000 Order numbers to 10,000 Roman Numerals Round to the nearest 10 Round to the nearest 100 Round to the nearest 1,000 Round to the nearest 10,100 or 1,000	Ones Tens Hundreds Thousands Place value Partition More Less Greater than Less than Compare Equal to Order Ascending Descending Exchange Round Multiples Digits Estimate
Addition and subtraction (3 weeks) **4C2** Add and subtract numbers with up to 4 digits, using formal written methods of columnar addition and subtraction **4C3** Estimate and use inverse operations to check answers to a calculation **4C4** solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Add and subtract 1s, 10s, 100s and 1000s Add up to two 4-digit numbers - no exchange Add two 4-digit numbers - one exchange Add two 4-digit numbers - more than one exchange Subtract two 4-digit numbers - no exchange Subtract two 4-digit numbers one exchange Subtract two 4-digit numbers - more than one exchange Efficient subtraction Estimate answers Checking strategies Solve addition and subtraction two-step problems in contexts (this step isn't on White Rose, but please spend a couple of lessons at end of unit applying column in multi-step problems) Encourage drawing problems/drawing bar models to assist comprehension of problems.	Addition/add Subtraction/subtract/take away More than Less than Digits Total/sum Combine Mental (method) Formal method Column Exchange Place value Inverse Altogether Calculation Commutativity/commutative
Measure – Area (1 week) (Note: children encounter area for the first time in Yr4) **4M7b** Find the area of rectilinear shapes by counting squares **NTS assessment week**	What is area? Count squares Make shapes Compare areas	area count squares rows arrays count systematically rectangles

Multiplication and Division (4 weeks) **4C6a** Recall multiplication and division facts for multiplication tables up to 12 × 12 **4C6b** 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 **4C6c** Recognise and use factor pairs and commutativity in mental calculations	Multiples of 3 Multiply and divide by 6 6 times-table and division facts Multiply and divide by 9 9 times-table and division facts The 3,6, and 9 times-tables Multiply and divide by 7 7 times-table and division facts 11 times-table and division facts 12 times-table and division facts Multiply by 1 and 0 Divide a number by 1 and itself Multiply three numbers Note: the last two steps of this journey are in Spring Term White Rose): Factor pairs Use factor pairs Teaching factor pairs.docx (Barts Teaching Guidance for Factors)	multiple multiply lots of groups of times what is the product of…? commutative divide share share equally remiander dividend, divisor, quotient factor factor pairs systematic systematically
Spring Term – (6 weeks + 7 weeks = 13 weeks)	**Small steps**	**Key vocab**
Multiplication and division (3 weeks) **4C7** Multiply two-digit and three-digit numbers by a one-digit number using formal written layout **4C7b** Divide numbers up to 3 digits by a one-digit number using the formal written method of short division **4C8** Solve problems involving X and +, including using the distributive law to multiply 2 digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	Multiply by 10 Multiply by 100 Divide by 10 Divide by 100 Related facts – multiplication & division **See separate document for the following steps:** Year 4 teaching of Multiplication and Division small steps.docx Multiply a 2-digit number by a 1-digit number Multiply a 3-diigit number by a 1-digit number Divide a 2-digit number by a 1-digit number Divide a 3-digit number by a 1-digit number	Multiply/times/lots of/groups of Multiplier Product Expanded method Short multiplication/compact method Divide/share Divisor Partition the dividend Remainder Short division
Measurement – Length and perimeter (2 weeks) **4M5** Convert between different units of measurement eg: kilometre to metre; **4M7a** Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres  Note: (Teach the children to write out an **addition sentence** when finding perimeter e.g. 7 + 7 + 4 + 4 = 22cm. This will avoid confusion when they come to use L x W for area in Yr 5.	Measure in km and m Equivalent lengths (km and m) Perimeter on a grid Perimeter of a rectangle Perimeter of rectilinear shapes Calculate perimeter of rectilinear shapes Perimeter of regular polygons Perimeter of polygons	length, km, m equal equivalent distance perimeter Polygon Cm, m
Fractions (4 weeks) **4F2** Recognise and show, using diagrams, families of common equivalent fractions **4F4** Add and subtract fractions with the same denominator **4F10a** Solve problems involving	Understand the whole Count beyond 1 Partition a mixed number Number lines with mixed numbers Compare and order mixed numbers Understand improper fractions	Fraction Numerator Denominator Equivalent Unit fraction Non-unit fraction Simplify

increasingly harder fractions to calculate quantities and fractions to divide quantities, including non-unit fractions where the answer is a whole number NTS assessment week	Convert mixed numbers to improper fractions Convert improper fractions to mixed numbers. Numicon can help this small step: NUMICON improper fractions and mixed numbers.docx Equivalent fractions on a number line Equivalent fractions families Add two or more fractions Add fractions and mixed numbers Subtract two fractions Subtract from whole amounts Subtract from mixed numbers	Whole Whole number Add Subtract Quantities Greater than Less than
Decimals (3 weeks) **4F1** Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten **4F6a** Recognise and write decimal equivalents to 1/4, 1/2 and ¾ **4F6b** Recognise and write decimal equivalents of any number of tenths or hundredths **4F7** Round decimals with one decimal place to the nearest whole number **4F8** Compare numbers with the same number of decimal places up to two decimal places **4F9** Find the effect of dividing a 1- or 2 digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	Tenths as fractions Tenths as decimals Tenths on a place value chart Tenths on a number line Divide a 1-digit number by 10 Divide a 2-digit number by 10 Hundredths as fractions Hundredths as decimals Hundredths on a place value chart Divide a 1-or2-digit number by 100	Hundredths Tenths Ones Divide/dividing Decimals Equivalent Compare Decimal places Place value
Summer Term (4 weeks + 7 weeks = 11 weeks)	**Small steps**	**Key vocab**
Decimals (2 weeks) **4F1** Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten **4F6a** Recognise and write decimal equivalents to 1/4, 1/2 and ¾ **4F6b** Recognise and write decimal equivalents of any number of tenths or hundredths **4F7** Round decimals with one decimal place to the nearest whole number **4F8** Compare numbers with the same number of decimal places up to two decimal places **4F9** Find the effect of dividing a 1- or 2 digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	Make a whole with tenths Make a whole with hundredths Partition decimals Flexibly partition decimals Compare decimals Order decimals Round to the nearest whole number Halves and quarters as decimals	Tenth Hundredth Part Whole Partition Place value Half Quarter
Measures - money (2 weeks) **4M1** Compare different measures, including money in pounds and pence	Write money using decimals Convert between pounds and pence Compare amounts of money Estimate with money	Pounds Pence Convert Order Add

4M2 Estimate different measures, including money in pounds and pence **4M5** Convert between different units of measurement [eg: kilometre to metre; hour to minute] **4M9** Calculate different measures, including money in pounds and pence **4F10b** Solve simple problems involving fractions and decimals to two decimal places	Calculate with money Solve problems with money	Subtract Change Round Estimate Cost Decimal point Calculate
Statistics – (2 weeks) **4S1** Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs **4S2** Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Interpret charts Comparison, sum and difference Interpret line graphs Draw line graphs	Interpret Present Data Discrete data Bar charts Continuous data Time line graph Compare Sum Difference Pictograms Tables
Measures - time (2 weeks) **4M4a** Read, write and convert time between analogue and digital 12-hour clocks **4M4b** Read, write and convert time between analogue and digital 24-hour clocks **4M4c** Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days **4M5** Convert between different units of measurement [eg: kilometre to metre; hour to minute]	Years, months , weeks and days Hours, minutes and seconds Convert between analogue and digital times Convert to the 24 hour clock Convert from the 24 hour clock	Time Analogue Digital 12-hour 24-hour Convert Seconds Minutes Hours Days Weeks Fortnight Year Months Half/quarter past To/past o'clock) O'clock
Geometry – Shape (1.5 weeks) **4G2a** Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and sizes **4G2b** Identify lines of symmetry in 2–D shapes presented in different orientations **4G2c** Complete a simple symmetric figure with respect to a specific line of symmetry **4G4** Identify acute and obtuse angles and compare and order angles up to two right angles by size	Understand angles as turns Identify angles Compare and order angles Triangles Quadrilaterals Polygons Lines of symmetry Complete a symmetric figure	Degrees Turns Acute, obtuse, reflex Symmetry, symmetrical Polygon 2-dimensional
NTS assessment week		

Position and direction (1 week) **4P2** Describe movements between positions as translations of a given unit to the left/right and up/down **4P3a** Describe positions on a 2–D grid as co-ordinates in the first quadrant **4P3b** Plot specified points and draw sides to complete a given polygon	Describe position using coordinates Plot coordinates Draw 2-D shapes on a grid Translate on a grid Describe translation on a grid	Orientation Translations 2D grid Coordinates Quadrant Plot Polygon Left/right up/down