Kingsland CE Primary School

Maths Curriculum Year 5

Yearly overview

The yearly overview provides suggested timings for each block of learning, which can be adapted to suit different term dates or other requirements.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number **Place value**			Number **Addition and subtraction**		Number **Multiplication and division A**			Number **Fractions A**			
Spring	Number **Multiplication and division B**			Number **Fractions B**		Number **Decimals and percentages**			Measurement **Perimeter and area**		Statistics	
Summer	Geometry **Shape**			Geometry **Position and direction**		Number **Decimals**			Number **Negative numbers**	Measurement **Converting units**		Measurement **Volume**

Autumn Term Weeks 1 – 3

Place value

Y5 Autumn Term Scheme of Learning.pdf

NCETM links	National Curriculum	National Curriculum non-statutory guidance	NRich Problem Solving	Ready to Progress
Composition and calculation: multiples of 1,000 up to 1,000,000 | NCETM **1.26 Composition and calculation: multiples of 1,000 up to 1,000,000** Explore the composition of six-digit, whole-thousand numbers, using the partitioning structure; apply knowledge and strategies from segments 1.17 and 1.18 combined with unitising in 1,000s, as well as column methods and rounding. • **Teaching point 1**: Understanding of numbers composed of hundred thousands, ten thousands and one thousands can be supported by making links to numbers composed of hundreds, tens and ones. • **Teaching point 2**: Multiples of 1,000 up to 1,000,000 can be placed in the linear number system by drawing on knowledge of the place of numbers up to 1,000 in the linear number system. • **Teaching point 3**: Numbers can be ordered and compared using knowledge of their composition and of their place in the linear number system. • **Teaching point 4**: Calculation approaches for numbers up to 1,000 can be applied to multiples of 1,000 up to 1,000,000. • **Teaching point 5**: Numbers can be rounded to simplify calculations or to indicate approximate sizes. • **Teaching point 6**: Known patterns can be used to divide 10,000 and 100,000 into two, four and five equal parts. These units are commonly used in graphing and measures.	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	Pupils identify the place value in large whole numbers. They continue to use number in context, including measurement. Pupils extend and apply their understanding of the number system to the decimal numbers and fractions that they have met so far. They should recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule. They should recognise and describe linear number sequences (for example, 3, 3 1/2, 4, 4 1/2...), including those involving fractions and decimals, and find the term-to-term rule in words (for example, add 1/2).	Swimming Pool Roman Numerals Less is More	

It is recommended to complete the unit about NEGATIVE NUMBERS next, instead of leaving it until the Summer Term. *The White Rose summer term plan for Negative Numbers can be found here: Y5 Summer Term Scheme of Learning.pdf*				
Negative numbers: counting, comparing and calculating | NCETM **1.27 Negative numbers: counting, comparing and calculating** Introduce children to negative numbers, making links to everyday contexts; explore addition and subtraction below zero and across zero • **Teaching point 1**: Positive and negative numbers can be used to represent change. • **Teaching point 2**: Our number system includes numbers that are less than zero; these are negative numbers. Numbers greater than zero are positive numbers. • **Teaching point 3**: The negative/minus symbol (−) is placed before a numeral to indicate that the value is a negative number. • **Teaching point 4**: Negative numbers can be shown on horizontal scales; numbers to the left of zero are negative (less than zero) and numbers to the right of zero are positive (greater than zero). The larger the value of the numeral after the negative/minus symbol, the further the number is from zero. • **Teaching point 5**: Knowledge of the positions of positive and negative numbers in the number system can be used to calculate intervals across zero. • **Teaching point 6**: Negative numbers are used in coordinate and graphing contexts.	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero			
It is recommended to complete the following two NCETM units PRIOR to doing the White Rose unit on Addition and Subtraction				
Common structures and the part–part–whole relationship | NCETM **1.28 Common structures of the part-part-whole relationship** Extend the part–part–part–whole structure (three or more parts) to solve missing part/whole problems in a range of contexts; draw on number composition and additive concepts from across the spine, focusing on the structural equivalence of the problems.	Add and subtract numbers mentally with increasingly large numbers Solve addition and subtraction multi-step problems in contexts,	They practise mental calculations with increasingly large numbers to aid fluency (for example, 12 462 – 2300 = 10 162).	Sea Level More Tug of war	

• **Teaching point 1**: Mathematical relationships encountered at primary level are either additive or multiplicative; both of these can be observed within the structure of part–part–whole relationships. • **Teaching point 2**: Problems in many different contexts can be solved by adding together the parts to find the whole. Different strategies can be used to calculate the whole, but the structure of the problem remains the same. • **Teaching point 3**: If the value of the whole is known, along with the values of all but one of the parts, the value of the missing part can be calculated. Different strategies can be used to calculate the missing part, but the structure of the problem remains the same. • **Teaching point 4**: Problems in many different contexts have the 'missing-part' structure.	deciding which operations and methods to use and why			
Using equivalence and the compensation property to calculate | NCETM **1.29 Using equivalence and the compensation property to calculate** Explore the effect on the sum of changing the value of one or both addends; explore the effect on the difference of changing the value of the minuend, the subtrahend or both. Apply knowledge of compensation properties and inverse operations to calculate and balance equations. • **Teaching point 1**: If one addend is increased and the other is decreased by the same amount, the sum stays the same. (same sum) • **Teaching point 2**: If one addend is increased (or decreased) and the other is kept the same, the sum increases (or decreases) by the same amount. • **Teaching point 3**: If the minuend and subtrahend are changed by the same amount, the difference stays the same. (same difference) • **Teaching point 4**: If the minuend is increased (or decreased) and the subtrahend is kept the same, the difference increases (or decreases) by the same amount.	Add and subtract numbers mentally with increasingly large numbers Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	They practise mental calculations with increasingly large numbers to aid fluency (for example, 12 462 – 2300 = 10 162).	Twenty Divided into Six Maze 100 Six Ten Total Subtraction Surprise Reach 100 Six Numbered Cubes	

• **Teaching point 5**: If the minuend is kept the same and the subtrahend is increased (or decreased), the difference decreases (or increases) by the same amount. • **Teaching point 6**: The value of the expressions on each side of an equals symbol must be the same; addition and subtraction are inverse operations. We can use this knowledge to balance equations and solve problems.				

Autumn Term Weeks 6 – 8				
Multiplication and Division A **Y5 Autumn Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
Segment 2.18 is sequenced after 1.29 because it uses the same concept of equivalent calculation.				
Using equivalence to calculate | NCETM **2.18 Using equivalence to calculate** Develop efficiency in calculation by using equivalence, through adjusting the factors (in multiplication) and the dividend and divisor (in division). • **Teaching point 1**: For multiplication, if there is a multiplicative *increase* to one factor and a corresponding *decrease* to the other factor, the product stays the same. • **Teaching point 2**: For division, if there is a multiplicative change to the dividend and a corresponding change to the divisor, the quotient stays the same.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers Establish whether a number up to 100 is prime and recall prime numbers up to 19 Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method,	Pupils practise and extend their use of the formal written methods of short multiplication and short division (see Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations. They use and understand the terms factor, multiple and prime, square and cube numbers.	Picture Your Method Compare the Calculations An Easy Way to Multiply by 10? Multiply Multiples 1 Multiply Multiples 2 Multiply Multiples 3	5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts

	including long multiplication for two-digit numbers Multiply and divide numbers mentally drawing upon known facts Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Recognise and use square numbers and cube numbers, and the notation for squared and cubed Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Solve problems involving multiplication and division, including scaling by simple	Pupils interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (for example, 98 ÷ 4 = 4 98 = 24 r 2 = 24 2 1 = 24.5 ≈ 25). Pupils use multiplication and division as inverses to support the introduction of ratio in year 6, for example, by multiplying and dividing by powers of 10 in scale drawings or by multiplying and dividing by powers of a 1000 in converting between units such as kilometres and metres. Distributivity can be expressed as a(b + c) = ab + ac. They understand the terms factor, multiple and prime, square and cube numbers and use them to construct equivalence statements (for example, 4 x 35 = 2 x 2 x 35; 3 x 270 = 3 x 3 x 9 x 10 = 92 x 10). Pupils use and explain the equals sign to indicate equivalence, including in missing number problems (for example, 13 + 24 = 12 + 25; 33 = 5 x_).	Trebling Trebling? All the Digits Sweets in a box Three Dice Satisfying Four Statements Pebbles Abundant Numbers Flashing Lights Multiplication Squares Which is quicker? Factor track Factors and Multiples Game Division Rules Cubes within Cubes Cubes within Cubes Odd Squares	by 1 tenth or 1 hundredth).
Calculation: ×/÷ decimal fractions by whole numbers | NCETM **2.19 Calculation: x/÷ decimal fractions by whole numbers** Develop strategies for multiplying and dividing decimal fractions by whole numbers, including combining known facts with unitising, multiplying and dividing by 10 and 100, and using adjusting strategies. • **Teaching point 1**: Decimal fractions (with a whole number of tenths or hundredths) can be multiplied by a whole number by using known multiplication facts and unitising. • **Teaching point 2**: Multiplying by 0.1 is equivalent to dividing by 10; multiplying by 0.01 is equivalent to dividing by 100. Understanding of place value can be used to divide a number by 10/100: when a number is divided by 10, the digits move one place to the right; when a number is divided by 100, the digits move two places to the right. • **Teaching point 3**: To multiply a single-digit number by a decimal fraction with up to two decimal places, convert the decimal fraction to an integer by multiplying by 10 or 100, perform the resulting calculation using an appropriate strategy, then adjust the product by dividing by 10 or 100. • **Teaching point 4**: If the multiplier is less than one, the product is less than the multiplicand; if the multiplier is greater than one, the product is greater than the multiplicand. • **Teaching point 5**: To divide any decimal fraction with up to two decimal places by a single-digit number, convert the decimal fraction to an integer by multiplying by 10 or 100, perform the resulting calculation using an appropriate strategy, then adjust the quotient by dividing by 10 or 100.				5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.
Factors, multiples, prime numbers and composite numbers | NCETM **2.21 Factors, multiples, prime numbers and composite numbers** Identify properties of factors and multiples including square and prime numbers, composite numbers, common and prime factors,				5MD–2 Find factors and multiples of positive whole numbers, including

and common multiples. Use factor pairs to solve problems efficiently • **Teaching point 1**: Factors are positive integers that can be multiplied together to equal a given number. • **Teaching point 2**: Systematic methods can be used to find all factors of a number; factors come in pairs; all positive integers have an even number of factors apart from square numbers, which have an odd number of factors; numbers with more than two factors are called composite numbers. • **Teaching point 3**: Prime numbers are positive integers that have exactly two factors. • **Teaching point 4**: A common factor is a factor that is shared by two or more numbers. A prime factor is a factor that is also a prime number. • **Teaching point 5**: A multiple of a number is the product of that number and an integer; a common multiple is a multiple that is shared by two or more numbers. • **Teaching point 6**: The factor pairs of '100' can be used to support efficient calculation.	fractions and problems involving simple rates.		Curious number	common factors and common multiples, and express a given number as a product of 2 or 3 factors.
Combining multiplication with addition and subtraction | NCETM **2.22 Combing multiplication with addition and subtraction** Learn to combine multiplication with addition or subtraction. Learn to use brackets to change the order of operations. Build on knowledge of the distributive law. • **Teaching point 1**: Multiplication can be combined with addition and subtraction; when there are no brackets, multiplication is completed before addition or subtraction; when there are brackets, the calculation within the brackets is completed first. • **Teaching point 2**: When adding or subtracting multiplication expressions that have a common factor, the distributive law can be applied.				

Autumn Term Weeks 9 – 12

Fractions

Y5 Autumn Term Scheme of Learning.pdf

NCETM links	National Curriculum	National Curriculum non-statutory guidance	NRich Problem Solving	Ready to Progress
Segment 3.7 is sequenced after 2.21 because it requires children to be confident with the concept of factors. Segment 3.8 is sequenced after 2.21 because it requires children to be confident with the concept of common multiples.				
Finding equivalent fractions and simplifying fractions | NCETM **3.7 Finding equivalent fractions and simplifying fractions** Discover how equivalent fractions have the same proportional relationship between the numerator and denominator, and therefore have the same numerical value. Convert between equivalent fractions and simplify fractions • **Teaching point 1**: When two fractions have different numerators and denominators to one another but share the same numerical value, they are called 'equivalent fractions'. • **Teaching point 2**: Equivalent fractions share the same proportional (multiplicative) relationship between the numerator and denominator. Equivalent fractions can be generated by maintaining that relationship through the process of multiplication and division. • **Teaching point 3**: Fractions can be simplified by dividing both the numerator and denominator by a common factor.	Compare and order fractions whose denominators are all multiples of the same number Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number Add and subtract fractions with the same denominator and denominators that are multiples of the same number Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	They extend their knowledge of fractions to thousandths and connect to decimals and measures. Pupils connect equivalent fractions > 1 that simplify to integers with division and other fractions > 1 to division with remainders, using the number line and other models, and hence move from these to improper and mixed fractions. Pupils connect multiplication by a fraction to using fractions as operators (fractions of), and to division, building on work from previous years. This relates to scaling by simple fractions, including fractions > 1. Pupils practise adding and subtracting fractions to become fluent through a variety of increasingly complex problems. They extend their understanding of adding and subtracting fractions to calculations that exceed 1 as a mixed number.	Tumbling Down	5F–2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.

		Pupils continue to practise counting forwards and backwards in simple fractions. Pupils continue to develop their understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities.		

End of term assessment

Spring Term Weeks 1 – 3				
Multiplication and Division B **Y5 Spring Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
This White Rose unit focuses on formal algorithms for multiplication and division. As required, refer back to NCETM units 2.18, 2.19. 2.21, 2.22	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers Multiply and divide numbers mentally drawing upon known facts Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Solve problems involving multiplication and division,	Pupils practise and extend their use of the formal written methods of short multiplication and short division (see Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.	Picture Your Method Compare the Calculations An Easy Way to Multiply by 10? Multiply Multiples 1 Multiply Multiples 2 Multiply Multiples 3 Trebling Trebling? All the Digits Sweets in a box Three Dice Satisfying Four Statements Pebbles	5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method. 5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.

	including scaling by simple fractions and problems involving simple rates.		Abundant Numbers Flashing Lights Multiplication Squares Which is quicker? Factor track Factors and Multiples Game Division Rules Cubes within Cubes Cubes within Cubes Odd Squares Curious number	

Spring Term Weeks 4 – 5

Fractions B

Y5 Spring Term Scheme of Learning.pdf

NCETM links	National Curriculum	National Curriculum non-statutory guidance	NRich Problem Solving	Ready to Progress
Common denomination: more adding and subtracting | NCETM **3.8 Common denomination: more adding and subtracting** Learn to add and subtract fractions with different denominators by first finding a common denominator. Compare fractions using a range of methods, including converting to a common denominator. • **Teaching point 1**: In order to add related fractions, first convert one fraction so that both share the same denominator (a *'common denominator'*). • **Teaching point 2**: To subtract related fractions, first convert one fraction so that both share a common denominator. • **Teaching point 3**: The common denominator method can be extended to adding and subtracting non unit related fractions. • **Teaching point 4**: To add and subtract *non-related* fractions, the product of the two denominators provides a common denominator. • **Teaching point 5**: Converting to common denominators is one of several methods that can be used to compare fractions.	Add and subtract fractions with the same denominator and denominators that are multiples of the same number Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Pupils connect multiplication by a fraction to using fractions as operators (fractions of), and to division, building on work from previous years. This relates to scaling by simple fractions, including fractions > 1. Pupils practise adding and subtracting fractions to become fluent through a variety of increasingly complex problems. They extend their understanding of adding and subtracting fractions to calculations that exceed 1 as a mixed number. Pupils continue to practise counting forwards and backwards in simple fractions. Pupils continue to develop their understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities.		5F–1 Find non-unit fractions of quantities.

Spring Term Weeks 6 – 8

Decimals and Percentages

Y5 Spring Term Scheme of Learning.pdf

NCETM links	National Curriculum	National Curriculum non-statutory guidance	NRich Problem Solving	Ready to Progress
Please note PERCENTAGES are not taught explicitly in the NCETM materials				
This White Rose unit focusses on decimals and percentages. Note – a significant proportion of the Ready to Progress criteria are related to decimals.	Read and write decimal numbers as fractions [for example, 0.71 = 100 71] Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Round decimals with two decimal places to the nearest whole number and to one decimal place Read, write, order and compare numbers with up to three decimal places Solve problems involving number up to three decimal places Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions	Pupils extend counting from year 4, using decimals and fractions including bridging zero, for example on a number line. Pupils say, read and write decimal fractions and related tenths, hundredths and thousandths accurately and are confident in checking the reasonableness of their answers to problems. They mentally add and subtract tenths, and one-digit whole numbers and tenths. They practise adding and subtracting decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 (for example, 0.83 + 0.17 = 1). Pupils should go beyond the measurement and money models of decimals, for example, by solving puzzles involving decimals. Pupils should make connections between percentages, fractions and decimals (for example,	Round the Dice Decimals 2 Matching Fractions, Decimals and Percentages	5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2

	with a denominator of a multiple of 10 or 25.	100% represents a whole quantity and 1% is 1/100 , 50% is 50/100 , 25% is 25/100) and relate this to finding 'fractions of'.		decimal places using standard and non standard partitioning 5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 5NPV–5 Convert between units of measure, including using common decimals and fractions. 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts

				by 1 tenth or 1 hundredth). 5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5F–3 Recall decimal fraction equivalents for ½, ¼, 1/5 and 1/10, and for multiples of these proper fractions.

Spring Term Weeks 9 – 10				
Measurement – Perimeter and Area Y5 Spring Term Scheme of Learning.pdf				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
N/A	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Pupils calculate the perimeter of rectangles and related composite shapes, including using the relations of perimeter or area to	Numerically Equal	5G–2 Compare areas and calculate the

	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	find unknown lengths. Missing measures questions such as these can be expressed algebraically, for example 4 + 2b = 20 for a rectangle of sides 2 cm and b cm and perimeter of 20cm. Pupils calculate the area from scale drawings using given measurements.	Fitted Making Boxes Brush Loads Ribbon Squares	area of rectangles (including squares) using standard units.

Spring Term Weeks 11 – 12				
Statistics **Y5 Spring Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
N/A	Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables, including timetables.	Pupils connect their work on coordinates and scales to their interpretation of time graphs. They begin to decide which representations of data are most appropriate and why.	How Big Are Classes 5, 6 and 7?	5 NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.

End of term assessment

Summer Term Weeks 1 – 3				
Geometry – Shape (properties of shapes) **Y5 Summer Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
N/A	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees (o) Identify: angles at a point and one whole turn (total 360o) angles at a point on a straight line and Use the properties of rectangles to deduce related facts and find missing lengths and angles Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Pupils become accurate in drawing lines with a ruler to the nearest millimetre, and measuring with a protractor. They use conventional markings for parallel lines and right angles. Pupils use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems. Pupils use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals, for example using dynamic geometry ICT tools.	Guess What? How Safe Are You? Olympic Turns The Numbers give the design Bracelets Egyptian Rope Estimating angles Making Rectangles	5G–1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.

Summer Term Weeks 4 – 5				
Geometry – Position and Direction **Y5 Summer Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
N/A	Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	Pupils recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant. Reflection should be in lines that are parallel to the axes.	Six Places to Visit Transformations on a Pegboard Transformations on a Pegboard More Transformations on a Pegboard	

Summer Term Week 6 – 8				
Decimals **Y5 Summer Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
This White Rose unit focusses on decimals. Note – a significant proportion of the Ready to Progress criteria are related to decimals.	Read and write decimal numbers as fractions [for example, 0.71 = 100 71] Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Round decimals with two decimal places to the nearest whole number and to one decimal place	Pupils extend counting from year 4, using decimals and fractions including bridging zero, for example on a number line. Pupils say, read and write decimal fractions and related tenths, hundredths and thousandths accurately and are confident in checking the reasonableness of their answers to problems.	Round the Dice Decimals 2 Matching Fractions, Decimals and Percentages	5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths

	Read, write, order and compare numbers with up to three decimal places Solve problems involving number up to three decimal places Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	They mentally add and subtract tenths, and one-digit whole numbers and tenths. They practise adding and subtracting decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 (for example, 0.83 + 0.17 = 1). Pupils should go beyond the measurement and money models of decimals, for example, by solving puzzles involving decimals. Pupils should make connections between percentages, fractions and decimals (for example, 100% represents a whole quantity and 1% is 1/100 , 50% is 50/100 , 25% is 25/100) and relate this to finding 'fractions of'.		are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non standard partitioning 5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 5NPV–5 Convert

				between units of measure, including using common decimals and fractions. 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). 5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5F–3 Recall decimal fraction equivalents for ½, ¼, 1/5 and 1/10, and for multiples of these proper fractions.

Summer Term Week 9				
Negative numbers **Y5 Summer Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	Ready to Progress
This unit on Negative Numbers should be completed in the Autumn term, alongside Place Value				
Negative numbers: counting, comparing and calculating | NCETM **1.27 Negative numbers: counting, comparing and calculating** Introduce children to negative numbers, making links to everyday contexts; explore addition and subtraction below zero and across zero • **Teaching point 1**: Positive and negative numbers can be used to represent change. • **Teaching point 2**: Our number system includes numbers that are less than zero; these are negative numbers. Numbers greater than zero are positive numbers. • **Teaching point 3**: The negative/minus symbol (−) is placed before a numeral to indicate that the value is a negative number. • **Teaching point 4**: Negative numbers can be shown on horizontal scales; numbers to the left of zero are negative (less than zero) and numbers to the right of zero are positive (greater than zero). The larger the value of the numeral after the negative/minus symbol, the further the number is from zero. • **Teaching point 5**: Knowledge of the positions of positive and negative numbers in the number system can be used to calculate intervals across zero. • **Teaching point 6**: Negative numbers are used in coordinate and graphing contexts.	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero			

Summer Term Weeks 10 – 11				
Measurement – Converting units Y5 Summer Term Scheme of Learning.pdf				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
N/A	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	Pupils use their knowledge of place value and multiplication and division to convert between standard units.		5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). 5NPV–5 Convert between units of measure, including using common decimals and fractions.

Summer Term Week 12				
Measurement – Volume Y5 Summer Term Scheme of Learning.pdf				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
Multiplication with three factors and volume | NCETM **2.20 Multiplication with three factors and volume** Use multiplication to calculate the volume of cuboids and shapes comprised of several cuboids; use division to solve associated inverse problems. Use associativity and commutativity to solve abstract multiplication problems with three factors. • **Teaching point 1**: Volume is the amount of space that something occupies. • **Teaching point 2**: Volume is measured in cubic units, such as cubic centimetres (cm^3) and cubic metres (m^3). • **Teaching point 3**: The volume of a cuboid can be calculated by multiplying the length, width and height. • **Teaching point 4**: Both the commutative law and the associative law can be applied when multiplying three or more numbers. • **Teaching point 5**: The choice of which order to multiply in can be made according to the simplest calculation.	Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] Solve problems involving converting between units of time Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.			

End of term assessment

Resources:

White Rose - My Account - Resources

NCETM TfM Assessment Questions 01-Yr5_Front cover-ccp.indd

DfE Ready to progress criteria - Mathematics guidance: key stages 1 and 2 (covers years 1 to 6)

NCETM Ready to Progress slides - Exemplification of ready-to-progress criteria | NCETM