Maths Whole School Overview 2021/22

Foundation Stage Numeracy	Baseline To secure numbers 0-5- recognising, counting, writing, comparing, adding and subtracting. To use everyday language related to money. Counting with pennies.	To use mathematical names for 'flat' 2D shapes, and mathematical terms to describe shapes. To use numbers from 1 to 10- recognising, counting, writing, comparing, adding and subtracting. Applying maths knowledge to Christmas Activities	To secure numbers 1-10- Estimation, ordering and counting on. To use everyday language to talk about size, weight and capacity to compare quantities and objects and to solve problems.	To use numbers from 1 to 20- counting, recognising and writing. To use mathematical names for 'solid' 3D shapes and mathematical terms to describe shapes. To use everyday language to talk about time to compare quantitie**Power Maths**s and to solve problems.	Securing numbers 1-20- comparing, ordering, adding and subtracting. Solve Problems including doubling, halving and sharing. Word problems and estimation. **Power Maths** Counting in 2's, 5's and 10's.	Time to consolidate learning from the year and for gap filling and preparation for year 1 in SSM and number. To include time, length, height, capacity, pattern, shape, money and position.

Key learning Y1	**Power Maths- Autumn1** Number: Place Value (within 10) Number: Addition and Subtraction (within 10)	**Power Maths - Autumn 2** Number: Addition and Subtraction (within 10) Geometry: Shape Number: Place Value (within 20)	**Power Maths - Spring 1** Number:Addition and Subtraction (within 20) Number: Place Value (within 50)	**Power Maths - Spring 2** Measurement:Length and Height Measurement:Weight and Volume Consolidation	**Power Maths - Summer 1** Number:Multiplication and Division Number:Fractions Geometry:Position and Direction	**Power Maths - Summer 2** Number: Place Value (within 100) Measurement:Money Measurement: Time

Number knowledge (firm facts/arithmetic)	**Add and subtract within ten**	**2D shapes**			**Language relating to direction**	
Y1 - Ready to Progress Criteria	**1NF-1** Count within 10, forwards and backwards, starting with any number. **1NF-2** Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = **1AS-1** Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	**1AS-2** Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts. **1G-1** Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	**1NPV-2** Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = **1AS-2** Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts.		**1G-2** Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	**1NPV-1** Count within 100, forwards and backwards, starting with any number.

Key learning Y2	**Power Maths - Autumn 1** Number: Place Value Number:Addition and Subtraction	**Power Maths - Autumn 2** Number:Addition and Subtraction Measurement:Money Number: Multiplication and Division Consolidation	**Power Maths - Spring 1** Number:Multiplication and Division Statistics	**Power Maths - Spring 2** Geometry:Properties of Shapes Number: Fractions	**Power Maths - Summer 1** Measurement:Length and Height Geometry: Position and Direction Consolidation: Problem Solving	**Power Maths - Summer 2** Measurement: Time Measurement: Mass, Capacity and Temperature Consolidation
Number knowledge	**Multiples of 2, 5 and**			**Language related to**		

(firm facts/arithmetic)	10 **Add and subtract across 10**			**properties of shape**		
Y2 - Ready to Progress Criteria	**2NPV-1** Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. **2NPV-2** Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. **2NF-1** Secure fluency in addition and subtraction facts within 10, through continued practice.	**2AS-1** Add and subtract across 10. **2AS-2** Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?". **2AS-3** Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number. **2AS-4** Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.	**2MD-1** Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.	**2G-1** Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	**2MD-2** Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	

Key learning Y3	**White Rose Autumn 1** Number: Place Value Number:Addition and Subtraction	**White Rose Autumn 2** Number: Addition and Subtraction Number: Multiplication and Division	**White Rose Spring 1** Number: Multiplication and Division Measurement: Money Statistics	**White Rose Spring 2** Measurement: Length and Perimeter Number:Fractions Consolidation	**White Rose Summer 1** Number: Fractions Measurement:Time	**White Rose Summer 2** Geometry: Properties of Shapes Measurement:Mass and Capacity Consolidation

Number knowledge (firm facts/arithmetic)	**Secure and maintain fluency in addition and subtraction within and across 10, through continued practice.** **Recall the 10 and 5 multiplication tables, and corresponding division facts.**	**Recall the 2, 4 and 8 multiplication tables, and corresponding division facts.**			**Multiplication and division facts in the 10, 5, 2, 4 and 8 tables**	
Y3 - Ready to Progress Criteria	**3NVP-1** Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. **3NVP-2** Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. **3NVP-3** Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. **3NF-1** Secure fluency in addition and	**3NF-2** Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. **3NF-3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). **3AS-1** Calculate complements to 100. **3AS-2** Add and subtract up to three-digit numbers using columnar methods. **3AS-3** Manipulate the additive relationship: Understand the inverse relationship between		**3NVP-4** Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts**.** **3F-1** Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	**3F-2** Find unit fractions of quantities using known division facts (multiplication tables fluency). **3F-3** Reason about the location of any fraction within 1 in the linear number system. **3F-4** Add and subtract fractions with the same denominator, within 1.	**3G-1** Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. **3G-2** Draw polygons by joining marked points, and identify parallel and perpendicular sides.

subtraction facts that bridge 10, through continued practice.	addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction. **3MD-1** Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.				

Key learning Y4	**White Rose Autumn 1** Number: Place Value Number: Addition and Subtraction	**White Rose Autumn 2** Measurement: Length and Perimeter Number: Multiplication and Division	**White Rose Spring 1** Number: Multiplication and Division Measurement: Area Number: Fractions	**White Rose Spring 2** Number: Fractions Number:Decimals Consolidation	**White Rose Summer 1** Number:Decimals Measurement: Money Measurement:Time	**White Rose Summer 2** Geometry: Properties of Shapes Geometry: Position and Direction Consolidation
Maths - Number knowledge (firm facts/arithmetic)	Recall the 3, 6 and 9 multiplication tables, and corresponding division facts.	Recall the 7 multiplication table, and corresponding division facts.	Recall the 11 and 12 multiplication tables, and corresponding division facts.	Recall multiplication and division facts up to 12 x 12 , recognising products and multiiples		

Y4 - Ready to Progress Criteria					
	4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. **4NVP-2** Recognise the place value of each digit in four-digit numbers,and compose anddecompose four-digit numbers using standard and non-standard partitioning. **4NVP-3** Reason about the location of any fourdigit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	**4NVP-4** Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. **4NF-1** Recall multiplication and division facts up to , and recognise products in multiplication tables as multiples of the corresponding number. **4NF-2** Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. **4NF-3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) **4F-1** Reason about the location of mixed numbers in the linear number system.	**4MD-1** Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. **4MD-2** Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. **4MD-3** Understand and apply the distributive property of multiplication	**4F-2** Convert mixed numbers to improper fractions and vice versa. **4F-3** Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.		**4G-1** Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. **4G-2** Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygon**s.** **4G-3** Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.

Key learning Y5	White Rose Autumn 1	White Rose Autumn 2	White Rose Spring 1	White Rose Spring 2	White Rose Summer 1	White Rose Summer 2
	Number: Place Value Number: Addition and Subtraction Statistics	Number: Multiplication and Division Measurement: Perimeter and Area	Number: Multiplication and Division Number: Fractions	Number: Fractions Number:Decimals and Percentages Consolidation	Consolidation Number:Decimals Geometry:Properties of Shapes	Geometry:Position and Direction Measurement:Converting units Consolidation
Number knowledge (firm facts/arithmetic)		Multiplication tables facts to 12x 12 Factor Multiple Product		Secure and maintain fluency in all multiplication tables, and corresponding division facts, through continued practice.		
Y5 - Ready to Progress Criteria	**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 nonstandard partitioning. **5NF-2** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	**5NF-1** Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. **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. **5MD-2** Find factors and multiples of positive whole numbers, including common multiples, and express a given number as a product of 2 or 3 factors	**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. **5F-1** Find non-unit fractions of quantities. **5F-2** Find equivalent fractions and understand that they have the same value and the same position	**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-3** Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the	**5G-1** Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.	**5NPV-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. **5NPV-5** 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.

		5G-2 Compare areas and calculate the area of rectangles (including squares), using standard units.	in the linear number system.	previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 5F-3 3 Recall decimal fraction equivalents for ½ ,¼ ⅕, and 1/10 , and for multiples of these proper fractions.		

Key learning Y6	White Rose Autumn 1	White Rose Autumn 2	White Rose Spring 1	White Rose Spring 2	White Rose Summer 1	White Rose Summer 2
	Number: Place Value Number: Addition and Subtraction Statistics	Number: Multiplication and Division Measurement: Perimeter and Area	Number: Multiplication and Division Number: Fractions	Number: Decimals and Percentages Consolidation	Consolidation Number:Decimals Geometry: Properties of Shapes	Geometry: Position and Direction Measurement: Converting units Meaurement: Volume
Y6 - Ready to Progress Criteria	6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). 6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including	6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using	6AS/MD-3 Solve problems involving ratio relationships. 6AS/MD-4 Solve problems with 2 unknowns. 6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions		6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.	

	decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning. **6NPV-3** Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts. **6NPV-4** Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.	arithmetic properties, inverse relationships, and place-value understanding.	**6F-2** Express fractions in a common denomination and use this to compare fractions that are similar in value. **6F-3** Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.		