**North Park Primary School** **Maths Year 5 Medium Term Planning**

| | Autumn | Spring | Summer |
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| ***White Rose Small Steps*** | **Number: Place Value**<br>• Roman numerals to 1000<br>• Numbers to 10,000<br>• Numbers to 100,000<br>• Numbers to 1000,000<br>• Read and write numbers to 1,000,000<br>• Powers of 10<br>• 10/100/1000/10,000/100,000 more or less<br>• Partition numbers to 1,000,000<br>• Number line to 1,000,000<br>• Compare and order numbers to 100,000<br>• Compare and order numbers to 1,000,000<br>• Round to the nearest 10,100 or 1000<br>• Round within 100,000<br>• Round within 1,000,000 | **Number: Multiplication and Division B**<br>• Multiply 4 digits by 1 digit.<br>• Multiply 2 digits (area model).<br>• Multiply 2 digits by 2 digits.<br>• Multiply 3 digits by 2 digits.<br>• Multiply 4 digits by 2 digits.<br>• Divide 4 digits by 1 digit.<br>• Divide with remainders. | **Geometry: Shape**<br>• Measuring angles in degrees.<br>• Measuring with a protractor (1).<br>• Measuring with a protractor (2).<br>• Drawing lines and angles accurately.<br>• Calculating angles on a straight line.<br>• Calculating angles around a point.<br>• Calculating lengths and angles in<br>• shapes.<br>• Regular and irregular polygons.<br>• Reasoning about 3D shapes. |
| ***National Curriculum Links*** | **Number: Place Value**<br>• Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals<br>• Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit<br>• Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000<br>• Solve number problems and practical problems involving the above<br>• Round any number up to 1,000,000 to the nearest 10, 100, 1,000,10,000 and 100,000 | **Number: Multiplication and Division B**<br>• Multiply and divide numbers mentally drawing upon known facts.<br>• Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2<br>• digit numbers.<br>• 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.<br>• Solve problems involving addition and subtraction, multiplication and division and a combination of | **Geometry: Shape**<br>• Identify 3D shapes, including cubes and other cuboids, from 2D representations.<br>• Use the properties of rectangles to deduce related facts and find missing lengths and angles.<br>• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.<br>• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.<br>• Draw given angles, and measure them in degrees.<br>• Identify: angles at a point and one whole turn (total 360 °°), angles at |

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| | | these, including understanding the use of the equals sign. | a point on a straight line and ½ a turn (total 180 °°) other multiples of 90 |
| ***White Rose Small Steps*** | **Number: Addition and Subtraction**<br>• Mental strategies<br>• Add whole numbers with more than four digits<br>• Subtract whole numbers with more than four digits<br>• Round to check answers<br>• Inverse operations (addition and subtraction)<br>• Multi-step addition and subtraction problems<br>• Compare calculations<br>• Find missing numbers | **Number: Fractions B**<br>• Multiply unit fractions by an integer.<br>• Multiply non unit fractions by an integer.<br>• Multiply mixed numbers by integers.<br>• Fraction of an amount.<br>• Using fractions as operators. | **Geometry: Position and Direction**<br>• Position in the first quadrant.<br>• Reflection.<br>• Reflection with coordinates.<br>• Translation.<br>• Translation with coordinates. |
| ***National Curriculum Links*** | **Number: Addition and Subtraction**<br>• Add and subtract numbers mentally with increasingly large numbers<br>• Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)<br>• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why<br>• Round any number up to 1,000,000 to the nearest 10, 100, 1,000,10,000 and 100,000<br>• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy | **Number: Fractions B**<br>• Multiply proper fractions and mixed numbers by whole<br>• numbers, supported by materials and diagrams.<br>• Read and write decimal numbers as fractions [ for example 0.71 = $^{71}/_{100}$<br>• Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. | **Geometry: Position and Direction**<br>• 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. |

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| ***White Rose Small Steps*** | **Number: Multiplication and Division (A)**<br>• Multiples<br>• Common multiples<br>• Factors<br>• Common factors<br>• Prime numbers<br>• Square numbers<br>• Cube numbers<br>• Multiply by 10, 100 and 1000<br>• Divide by 10, 100 and 1000<br>• Multiples of 10, 100 and 1000 | **Number: Decimals and Percentages**<br>• Decimals up to 2 d.p.<br>• Decimals as fractions (1).<br>• Decimals as fractions (2).<br>• Understand thousandths.<br>• Thousands as decimals.<br>• Rounding decimals.<br>• Order and compare decimals.<br>• Understand percentages.<br>• Percentages as fractions and decimals.<br>• Equivalent F.D.P. | **Number: Decimals**<br>• Adding decimals within 1.<br>• Subtracting decimals within 1.<br>• Complements to 1.<br>• Adding decimals crossing the whole.<br>• Adding decimals with the same number of decimal places.<br>• Subtracting decimals with the same number of decimal places.<br>• Adding decimals with a different number of decimal places.<br>• Subtracting decimals with a different number of decimal places.<br>• Adding and subtracting whole and decimals.<br>• Decimal sequences.<br>• Multiplying decimals by 10, 100 and 1000.<br>• Dividing decimals by 10, 100 and 1,000. |
| ***National Curriculum Links*** | **Number: Multiplication and Division (A)**<br>• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers<br>• Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes<br>• Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers<br>• Establish whether a number up to 100 is prime and recall prime numbers up to 19<br>• Recognise and use square numbers and cube numbers, and | **Number: Decimals and Percentages**<br>• Read, write, order and compare numbers with up to three decimal places.<br>• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.<br>• Round decimals with two decimal places to the nearest whole number and to one decimal place.<br>• Solve problems involving number up to three decimal places.<br>• Recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages | **Number: Decimals**<br>• Solve problems involving number up to three decimal places<br>• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.<br>• Use all four operations to solve problems involving measure [ for example, length, mass, volume, money] using decimal notation, including scaling. |

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| | the notation for squared (2) and cubed (3)<br>• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000<br>• Multiply and divide numbers mentally, drawing upon known facts | as a fraction with denominator 100, and as a decimal.<br>• Solve problems which require knowing percentage and decimal equivalents of ½, ¼, ⅕, ⅖, ⅘ and those fractions with a denominator of a multiple of 10 or 25. | |
| ***White Rose Small Steps*** | **Number: Fractions A**<br>• Find fractions equivalent to a unit fraction<br>• Find fractions equivalent to a non-unit fraction<br>• Recognise equivalent fractions<br>• Convert improper fractions to mixed numbers<br>• Convert mixed numbers to improper fractions<br>• Compare fractions less than 1<br>• Order fractions less than 1<br>• Compare and order fractions greater than 1<br>• Add and subtract fractions with the same denominator<br>• Add fractions within 1<br>• Add fractions with total greater than 1<br>• Add to a mixed number<br>• Add two mixed numbers<br>• Subtract fractions<br>• Subtract from a mixed number<br>• Subtract from a mixed number- breaking the whole<br>• Subtracts two mixed numbers | **Measurement: Perimeter and Area**<br>• Measure perimeter.<br>• Calculate perimeter.<br>• Area of rectangles.<br>• Area of compound shapes.<br>• Area of irregular shapes. | **Number: Negative Numbers**<br>• Negative numbers |

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| ***National Curriculum Links*** | **Number: Fractions A**<br>• Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths<br>• Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number<br>• Compare and order fractions whose denominators are all multiples of the same number<br>• Add and subtract fractions with the same denominator, and denominators that are multiples of the same number | **Measurement: Perimeter and Area**<br>• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.<br>• Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres ($cm^2$) and square metres ($m^2$), and estimate the area of irregular shapes. | **Number: Negative Numbers**<br>• Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. |
| | | **Statistics**<br>• Read and interpret line graphs.<br>• Draw line graphs.<br>• Use line graphs to solve problems.<br>• Read and interpret tables.<br>• Two way tables.<br>• Timetables. | **Measurement: Converting Units**<br>• Kilograms and kilometres.<br>• Milligrams and millilitres.<br>• Metric units.<br>• Imperial units.<br>• Converting units of time.<br>• Timetables. |
| | | **Statistics**<br>• Solve comparison, sum and difference problems using information presented in a line graph.<br>• Complete, read and interpret information in tables including timetables. | **Measurement: Converting Units**<br>• Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml].<br>• Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.<br>• Solve problems involving converting between units of time. |

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| | | | **Measurement: Volume**<br>• What is volume?<br>• Compare volume.<br>• Estimate volume.<br>• Estimate capacity. |
| | | | **Measurement: Volume**<br>• Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water].<br>• Use all four operations to solve problems involving measure. |