North Park Primary School   **Maths Year 6 Medium Term Planning**

	Autumn	Spring	Summer
White Rose Small Steps	**Number: Place Value** • Numbers to 1,000,000 • Numbers to 10,000,000 • Read and write numbers to 10,000,000 • Powers of 10 • Number line to 10,000,000 • Compare and order any integers • Round any integer • Negative numbers	**Number: Ratio** • Use ratio language. • Ratio and fractions. • Introducing the ratio symbol. • Calculating ratio. • Using scale factors. • Calculating scale factors. • Ratio and proportion problems.	**Geometry: Shape** • Measure with a protractor. • Introduce angles. • Calculate angles. • Vertically opposite angles. • Angles in a triangle. • Angles in a triangle special cases. • Angles in a triangle missing • angles. • Angles in special quadrilaterals. • Angles in regular polygons. • Draw shapes accurately. • Nets of 3D shapes.
National Curriculum Links	**Number: Place Value** • Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit • Solve number and practical problems that involve the above • Round any whole number to a required degree of accuracy • Use negative numbers in context, and calculate intervals across zero	**Number: Ratio** • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solve problems involving similar shapes where the scale factor is known or can be found. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	**Geometry: Shape** • Draw 2 D shapes using given dimensions and angles. • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
White Rose Small Steps	**Number: Addition, subtraction, multiplication and division** • Add and subtract integers • Common factors • Common multiples • Rules of divisibility • Primes to 100 • Square and cube numbers • Multiply up to a 4-digit number by a 2-digit number • Solve problems with multiplication	**Number: Algebra** • Find a rule one step. • Find a rule two step. • Use an algebraic rule. • Substitution. • Formulae. • Word problems. • Solve simple one step equations. • Solve two step equations. • Find pairs of values. • Enumerate possibilities.	**Geometry: Position and Direction** • Coordinates in the first quadrant. • Coordinate in four quadrants. • Translations. • Reflections.

	• Short division • Division using factors • Introduction to long division • Long division with remainders • Solve problems with division • Solve multi-step problems • Order of operations • Mental calculations and estimation • Reason from known facts		
National Curriculum Links	**Number: Addition, subtraction, multiplication and division** • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Solve problems involving addition, subtraction, multiplication and division • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • Identify common factors, common multiples and prime numbers • Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal written method of long multiplication • Perform mental calculations, including with mixed operations and large numbers • Divide numbers up to four digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • Use their knowledge of the order of operations to carry out	**Number: Algebra** • Use simple formulae. • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Enumerate possibilities of combinations of two variables.	**Geometry: Position and Direction** • Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

	calculations involving the four operations		
White Rose Small Steps	**Number: Fractions A** • Equivalent fractions and simplifying • Equivalent fractions on a number line • Compare and order (denominator) • Compare and order (numerator) • Add and subtract simple fractions • Add and subtract any two fractions • Add mixed numbers • Subtract mixed numbers • Multi-step problems	**Number: Decimals** • Three decimal places. • Multiply by 10, 100 and 1,000. • Divide by 10, 100 and 1,000. • Multiply decimals by integers. • Divide decimals by integers. • Division to solve problems. • Decimals as fractions. • Fractions to decimals (1). • Fractions to decimals (2).	
National Curriculum Links	**Number: Fractions A** • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • Compare and order fractions, including fractions > 1 • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • Identify common factors, common multiples and prime numbers • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • Solve addition and subtraction multi-step problems in contexts,	**Number: Decimals** • Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. • Multiply one digit numbers with up to 2 decimal places by whole numbers. • Use written division methods in cases where the answer has up to 2 decimal places. • Solve problems which require answers to be rounded to specified degrees of accuracy.	

	deciding which operations and methods to use and why • Solve problems involving addition, subtraction, multiplication and division		
White Rose Small Steps	**Number: Fractions B** • Multiply fractions by integers • Multiply fractions by fractions • Divide a fraction by an integer • Divide any fraction by an integer • Mixed questions with fractions • Fraction of an amount • Fraction of an amount- find the whole	**Number: Fractions, Decimals and Percentages** • Fractions to percentages. • Equivalent FDP • Percentage of an amount (1). • Percentage of an amount (2). • Percentages missing values. • Percentage increase and decrease. • Order FDP.	
National Curriculum Links	**Number: Fractions B** • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams (Y5) • Multiply simple pairs of proper fractions, writing the answer in its simplest form • Divide proper fractions by whole numbers • Add and subtract fractions with different denominators and mixed • numbers, using the concept of equivalent fraction • Solve problems involving addition, subtraction, multiplication and division • Associate a fraction with division and calculate decimal fraction equivalents	**Number: Fractions, Decimals and Percentages** • Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. • Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.	

White Rose Small Steps	**Measurement: Converting Units** • Metric measures • Convert metric measures • Calculate with metric measures • Miles and kilometres • Imperial measures	**Measurement: Area, Perimeter and Volume** • Shapes same area. • Area and perimeter. • Area of a triangle (1). • Area of a triangle (2). • Area of a triangle (3). • Area of a parallelogram. • Volume counting cubes. • Volume of a cuboid.	
National Curriculum Links	**Measurement: Converting Units** • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate • Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places	**Measurement: Area, Perimeter and Volume** • Recognise that shapes with the same areas can have different perimeters and vice versa. • Recognise when it is possible to use formulae for area and volume of shapes. • Calculate the area of parallelograms and triangles. • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3).	
		Statistics • Read and interpret line graphs. • Draw line graphs. • Use line graphs to solve problems. • Circles. • Read and interpret pie charts. • Pie charts with percentages. • Draw pie charts. • The mean.	

		Statistics • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate the mean as an average.	