Maths Year 6 - Autumn				
	Number: Place Value	**Number: Addition, Subtraction, Multiplication and Division**	**Number: Fractions**	**Geometry: Position and Direction**
	Week 1-2	**Week 3-7**	**Week 8-11**	**Week 12**
National Curriculum	• Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across zero. • Solve number and practical problems that involve all of the above.	• Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. • Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication. • Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context. • Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • 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.	• 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. • Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$). • Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$). • Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8). • Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. • Multiply one digit numbers with up to two decimal places by whole numbers. • Use written division methods in cases where the answer has up to two decimal places. • Solve problems which require answers to be rounded to specified degrees of accuracy. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	• Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane, and reflect

White Rose Small Steps	• Numbers to ten million. • Compare an order any number. • Round any numbers. • Negative numbers.	• Add and subtract whole numbers. • Multiply up to 4-digit by 1-digit number. • Short division. • Division using factors. • Long division (1). • Long division (2). • Long division (3). • Long division (4). • Common factors. • Common multiples. • Primes. • Squares and cubes. • Order of operations. • Mental calculations and estimation. • Reasoning from known facts.	• Simplify fractions. • Fractions on a number line. • Compare & order (denominator). • Compare & order (numerator). • Add & subtract fractions (1). • Add & subtract fractions (2). • Adding fractions. • Subtracting fractions. • Mixed addition and subtraction. • Multiply fractions by integers. • Multiply fractions by fractions. • Divide fractions by integers (1). • Divide fractions by integers (2). • Four rules with fractions. • Fraction of an amount. • Finding the whole	• Coordinates in the first quadrant. • Coordinate in four quadrants. • Translations. • • Reflections.
PS	• Engage with mathematical activities and problems, making links and moving between different representations (concrete, pictorial, abstract) • Independently choose to scaffold thinking using concrete, pictorial or abstract representations, if required. • Independently choose to represent thinking using concrete, pictorial or abstract representations, as appropriate. • Make suggestions of ways to solve a range of problems. • Organise work from the outset, looking for ways to record and work systematically. • Find and predict possibilities that match the context using patterns spotted to support. • Independently check and improve their work (e.g. look for other possibilities, repeats, missing answers, errors and ways to improve). • Pattern spot and begin to express generalisations/proof using words and symbolic notation. • Make and investigate conjectures and provide examples and counter-examples. • When they have solved a problem, pose a similar problem for a peer.			
R	• Provide proof of reasoning, expressing generalisations in words and symbolic notation. • Reflect on others' proof and use this to improve their own work. • Edit and improve their own and a peer's proof. • Investigate 'what if?' questions. • Create 'what if?' questions.			

Maths Year 6 - Spring							
	Number: Decimals	**Number: Percentages**	**Number: Algebra**	**Measurement: Converting Units**	**Measurement: Perimeter, Area and Volume**	**Number: Ratio**	**Consolidation**
	Week 1-2	**Week 3-4**	**Week 5-6**	**Week 7**	**Week 8-9**	**Week 10-11**	**Week 12**
National Curriculum	• 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.	• 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	• 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.	• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three 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 d.p. • Convert between miles and kilometres.	• 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).	• 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.	• All

White Rose Small Steps	• 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).	• Fractions to percentages. • Equivalent FDP. • Percentage of an amount (1). • Percentage of an amount (2). • Percentages – missing values. • Percentage increase and decrease. • Order FDP.	• 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.	• Metric measures. • Convert metric measures. • Calculate with metric measures. • Miles and kilometres. • Imperial measures.	• 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	• Use ratio language. • Ratio and fractions. • Introducing the ratio symbol. • Calculating ratio. • Using scale factors. • Calculating scale factors. • Ratio and proportion problems	• All
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Maths Year 6 - Summer			
	Statistics	**Geometry: Properties of Shapes**	**Consolidation and themed projects**
	Week 1-2	**Week 3-5**	**Week 6-12**
National Curriculum	•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.	•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	•. 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.	•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	

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