Hemlington Hall Academy
Maths Medium-Term Plan & Small Steps: Year 6
Autumn Term

	Place Value	Position & Direction	Four Operations	Statistics & Circles	Fractions A	Fractions B	Assessment
	3 weeks	1 week	3 weeks	2 weeks	3 weeks	2 weeks	1 week
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	• 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	• 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 • 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 • Divide numbers up to four 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	• Interpret and construct pie charts and line graphs and use these to solve problems • Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (Year 4) • Calculate and interpret the mean as an average • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	• 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 • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • Identify common factors, common multiples and prime numbers • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	• 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	• Test to be made by Maths lead to match what has been taught – do **not** just use WR End of Term Tests • Day 1 do arithmetic test • Day 2 go over and unpick the arithmetic test with loads of discussion – this **must** be given proper time • Days 3 do reasoning test • Day 4 go over and unpick the reasoning test with loads of discussion – this **must** be given proper time
Small Steps	• 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 • Roman Numerals to 1000	• Read and plot points in four quadrants • Solve problems with coordinates • Translations • Reflections	**From Calculation Policy 1st NOT WR & Do CPA lessons** • Add and subtract integers • Multiply up to a 4-digit number by a 2-digit number • Solve problems with multiplication • 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	• Line graphs • Dual bar charts • Read and interpret pie charts • Pie charts with percentages • The mean • circles	**From policy for fraction calculating methods – must be school consistency!** • Common factors • Common multiples • Primes to 100 • Square and cube numbers • Equivalent fractions and simplifying • Equivalent fractions on a number line • Compare and order (den) • Compare and order (num) • Convert between mixed and improper (Y5) • Add and subtract simple fractions • Add and subtract any two fractions • Add mixed numbers • Subtract mixed number • Multi-step problems	**From policy for fraction calculating methods – must be school consistency!** • 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	
Enrichment	Block Opener/Assembly on Careers linked to unit	Block Opener/Assembly on Careers linked to unit	Block Opener/Assembly on Careers linked to unit World Statistics Day (20.10.23)	Block Opener/Assembly on Careers linked to unit Lingfield Education Trust TTRS Competition (16-20.10.23)	Block Opener/Assembly on Careers linked to unit WR Barvember (November)	Block Opener/Assembly on Careers linked to unit Lingfield Education Trust TTRS Competition (11-15.12.23)	LET Christmas Problems & Puzzles

	Decimals	FDP	Ratio	Algebra	Measures	Area, Perimeter, Volume	Assessment
	2 weeks	2 weeks	2 weeks	2 weeks	1 week	2 weeks	1 week
National Curriculum	• Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places • Solve problems which require answers to be rounded to specified degrees of accuracy • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Multiply 1-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 involving addition, subtraction, multiplication and division	• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts • Compare and order fractions, including fractions >1 • Solve problems involving the calculation of percentages and the use of percentages for comparison	• 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 unequal sharing and grouping using knowledge of fractions and multiples • Solve problems involving similar shapes where the scale factor is known or can be found	• Use simple formulae • Generate and describe linear number sequences • Find pairs of numbers that satisfy an equation with two unknowns • Enumerate possibilities of combinations of two variables • Express missing number problems algebraically	• 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	• 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 cubic centimetres (cm3) and cubic metres (m3), and extending to other units	• Test to be made by Maths lead to match what has been taught – do **not** just use WR End of Term Tests • Day 1 do arithmetic test • Day 2 go over and unpick the arithmetic test with loads of discussion – this **must** be given proper time • Days 3 do reasoning test • Day 4 go over and unpick the reasoning test with loads of discussion – this **must** be given proper time
Small Steps	• Place value within 1 • Place value – integers and decimals • Round decimals • Add and subtract decimals • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply decimals by integers • Divide decimals by integers • Multiply and divide decimals in context	• Decimal and fraction equivalents • Fractions as division • Understand percentages • Fractions to percentages • Equivalent fractions, decimals and percentages • Order fractions, decimals and percentages • Percentage of an amount – one step • Percentage of an amount – multi-step • Percentages – missing values	• Add or multiply? • Use ratio language • Introduction to the ratio symbol • Ratio and fractions • Scale drawing • Use scale factors • Similar shapes • Ratio problems • Proportion problems • Recipes	• 1-step function machines • 2-step function machines • Form expressions • Substitution • Formulae • Form equations • Solve 1-step equations • Solve 2-step equations • Find pairs of values • Solve problems with two unknowns	• Metric measures • Convert metric measures • Calculate with metric measures • Miles and kilometres • Imperial measures	• Shapes – same area • Area and perimeter • Area of a triangle – counting squares • Area of a right-angled triangle • Area of any triangle • Area of a parallelogram • Volume – counting cubes • Volume of a cuboid	
Enrichment	Block Opener/Assembly on Careers linked to unit International Puzzle Day (29.01.24)	Block Opener/Assembly on Careers linked to unit NSPCC Number Day (02.02.24) Lingfield Education Trust TTRS Competition (05-09.02.24)	Block Opener/Assembly on Careers linked to unit World Maths Day (23.03.24)	Block Opener/Assembly on Careers linked to unit	Block Opener/Assembly on Careers linked to unit	Block Opener/Assembly on Careers linked to unit Lingfield Education Trust TTRS Competition (11-15.03.24)	LET Easter Problems & Puzzles

	Properties of Shape	Revision	Projects
	2 weeks	2 weeks	7 weeks
National Curriculum	• Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles • Draw given angles, and measure them in degrees (°) (Y5) • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (Y5) • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • Draw 2-D shapes using given dimensions and angles	SATs Revision	Best Value Profits & Losses Packaging Cooking White Rose Tours White Rose Futures IMEI Calculator project ready for Y7
Small Steps	• Measure and classify angles • Measure and draw angles (Y5) • Calculate angles • Vertically opposite angles • Angles in a triangle • Angles in a triangle – special cases • Angles in a triangle – missing angles • Angles in a quadrilateral • Angles in polygons • Draw shapes accurately • Nets of 3-D shapes		
Enrichment	Block Opener/Assembly on Careers linked to unit National Numeracy Day (15.05.24)	Lingfield Education Trust TTRS Competition Women in Maths Day (12.05.24) Lingfield Education Trust TTRS Competition (20-24.05.24) Allow you pupils practice on the maths orienteering course this term ready for the competition next term.	My Money Week (12-16/6/24) My Money Week (12-16.06.24) Alan Turing Day (23.06.24) Lingfield Education Trust TTRS Competition (01-05.07.24) MP Maths Orienteering Competition for all year groups (01-05.07.24) Lingfield Education Trust maths Challenge (12.07.24)