



HVPA Sequence of Learning Progression – Year 6

This overview breaks down each of the Programmes of Study and domains covered by Year 6 and shows the approximate amount of weeks expected in the teaching of each area. Time is built in for consolidation and extension (based on the security of pupils' understanding & readiness to move on, challenge through problem solving and reasoning) and assessment within each term.

Autumn Term	Domain	National Curriculum Programmes of Study	Specific Teaching Areas
Number: Number and place value approx. 1½ weeks	Place value to 10,000,000	Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.	<ul style="list-style-type: none"> Numbers to 1,000,000 Numbers to 10,000,000 Number line to 10,000,000 Comparing and ordering numbers to 10,000,000
		Solve number and practical problems that involve all of the above.	
		Round any whole number to a required degree of accuracy	<ul style="list-style-type: none"> Rounding numbers
		Use negative numbers in context, and calculate intervals across zero.	<ul style="list-style-type: none"> Negative numbers
Number: Addition, subtraction, multiplication and division approx. 4 weeks	Four operations	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.	<ul style="list-style-type: none"> Multiplying numbers up to 4 digits by a 1-digit number Multiplying numbers up to 4 digits by a 2-digit number
		Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.	<ul style="list-style-type: none"> Dividing numbers up to 4 digits by a 2-digit number
		Identify common factors, common multiples and prime numbers.	<ul style="list-style-type: none"> Common factors Common multiples Recognising prime numbers up to 100
		Use their knowledge of the order of operations to carry out calculations involving the four operations	<ul style="list-style-type: none"> Order of operations Brackets
		Perform mental calculations, including with mixed operations and large numbers.	<ul style="list-style-type: none"> Mental calculations
		Use their knowledge of the order of operations to carry out calculations involving the four operations.	<ul style="list-style-type: none"> Reasoning from known facts
		Solve problems involving addition, subtraction, multiplication and division.	
Number: Fractions (including decimals and percentages) approx. 4 weeks	Fractions	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.	<ul style="list-style-type: none"> Simplifying fractions Fractions on a number line Comparing and ordering fractions
		Compare and order fractions, including fractions > 1 .	
		Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	<ul style="list-style-type: none"> Adding and subtracting fractions Adding fractions Subtracting fractions Problem solving – adding and subtracting fractions

		Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, $1/4 \times 1/2 = 1/8$).	<ul style="list-style-type: none"> • Multiplying a fraction by a fraction
		Divide proper fractions by whole numbers (for example, $1/3 \div 2 = 1/6$).	<ul style="list-style-type: none"> • Dividing a fraction by a whole number
		Use their knowledge of the order of operations to carry out calculations involving the four operations.	<ul style="list-style-type: none"> • Four rules with fractions
		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 (for example, $1/4 \times 1/2 = 1/8$).	
		Use written division methods in cases where the answer has up to two decimal places.	<ul style="list-style-type: none"> • Calculating fractions of amounts • Problem solving – fractions of amounts
Geometry: approx. 1 week	Position and direction	Describe positions on the full coordinate grid (all four quadrants).	<ul style="list-style-type: none"> • Plotting coordinates in the first quadrant • Plotting coordinates
		Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	<ul style="list-style-type: none"> • Plotting translations and reflections • Reasoning about shapes with coordinates

Spring Term	Domain	National Curriculum Programmes of Study	Specific Teaching Areas	
Number: Fractions (including decimals and percentages) approx. 2 weeks	Decimals	Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places	<ul style="list-style-type: none"> Multiplying by 10, 100 and 1,000 Dividing by multiples of 10, 100 and 1,000 	
		Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places	<ul style="list-style-type: none"> Decimals as fractions 	
		Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, $\frac{3}{8}$).		
		Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, $\frac{3}{8}$).	<ul style="list-style-type: none"> Fractions as decimals 	
		Use written division methods in cases where the answer has up to two decimal places		
		Multiply one-digit numbers with up to two decimal places by whole numbers.	<ul style="list-style-type: none"> Multiplying decimals 	
		Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, $\frac{3}{8}$).	<ul style="list-style-type: none"> Dividing decimals 	
		Solve problems which require answers to be rounded to specified degrees of accuracy.		
	Use written division methods in cases where the answer has up to two decimal places.			
	approx. 2 weeks	Percentages Ratio and proportion	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	<ul style="list-style-type: none"> Percentage of Finding missing values Converting fractions to percentages Equivalent 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.	
			Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$).	
			Multiply one-digit numbers with up to two decimal places by whole numbers.	
			Compare and order fractions, including fractions > 1 .	<ul style="list-style-type: none"> Equivalent fractions, decimals and percentages
			Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	
			Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	<ul style="list-style-type: none"> Mixed problem solving
Solve problems which require answers to be rounded to specified degrees of accuracy.				
Algebra: approx. 2½ weeks	Algebra	Use simple formulae.	<ul style="list-style-type: none"> Finding a rule Using a rule 	
		Generate and describe linear number sequences		
		Express missing number problems algebraically		
		Use simple formulae.		

		Enumerate possibilities of combinations of two variables	<ul style="list-style-type: none"> • Formulae 	
		Express missing number problems algebraically.	<ul style="list-style-type: none"> • Solving equations 	
		Find pairs of numbers that satisfy an equation with two unknowns		
		Enumerate possibilities of combinations of two variables.		
Measure: approx. 3½ weeks	Imperial and metric measures	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 three decimal places	<ul style="list-style-type: none"> • Metric measures • Converting metric measures 	
		Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	<ul style="list-style-type: none"> • Problem solving – metric measures 	
		Convert between miles and kilometres.	<ul style="list-style-type: none"> • Miles and km 	
		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 three decimal places	<ul style="list-style-type: none"> • Imperial measures 	
	Measure perimeter, area and volume	Recognise that shapes with the same areas can have different perimeters and vice versa.	<ul style="list-style-type: none"> • Shapes with the same area • Area and perimeter 	
		Recognise when it is possible to use formulae for area and volume of shapes.		
		Calculate the area of parallelograms and triangles	<ul style="list-style-type: none"> • Area of a parallelogram • Area of a triangle • Problem solving – area 	
		Recognise that shapes with the same areas can have different perimeters and vice versa.	<ul style="list-style-type: none"> • Problem solving – perimeter 	
		Recognise when it is possible to use formulae for area and volume of shapes	<ul style="list-style-type: none"> • Volume of a cuboid 	
		Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units (for example, mm ³ and km ³).		
	Ratio & proportion: approx. 2 weeks	Ratio & proportion	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	<ul style="list-style-type: none"> • Ratio
			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			<ul style="list-style-type: none"> • Scale drawings • Scale factors • Similar shapes 	
Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.			<ul style="list-style-type: none"> • Problem solving – ratio and proportion 	
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.				

Summer Term	Domain	National Curriculum Programmes of Study	Specific Teaching Areas	
Geometry: approx. 2½ weeks	Properties of shapes	Draw 2D shapes using given dimensions and angles	<ul style="list-style-type: none"> Measuring with a protractor Drawing shapes accurately 	
		Compare and classify geometric shapes based on their properties and sizes, and find unknown angles in any triangles, quadrilaterals and regular polygons.	<ul style="list-style-type: none"> Angles in triangles Angles in polygons 	
		Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	<ul style="list-style-type: none"> Vertically opposite angles 	
		Illustrate and name parts of circles, including radius, diameter and circumference, and know that the diameter is twice the radius.	<ul style="list-style-type: none"> Equal distance Parts of a circle 	
		Recognise, describe and build simple 3D shapes, including making nets	<ul style="list-style-type: none"> Nets 	
Problem solving: approx. 3 weeks	Number and place value	Solve number and practical problems that involve all of the above	<ul style="list-style-type: none"> Problem solving – place value Problem solving – negative numbers 	
	Number – addition, subtraction, multiplication and division	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	<ul style="list-style-type: none"> Problem solving – addition and subtraction 	
		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 their knowledge of the order of operations to carry out calculations involving the four operations.		<ul style="list-style-type: none"> Problem solving – 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		
	Number – fractions (including decimals and percentages)	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	<ul style="list-style-type: none"> Problem solving – fractions 	
		Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	<ul style="list-style-type: none"> Problem solving – decimals 	
		Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	<ul style="list-style-type: none"> Problem solving – percentages 	
	Ratio and proportion	Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison.	<ul style="list-style-type: none"> Problem solving – ratio and proportion 	
		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.		
Measurement	Use, read, write and convert between standard units, converting measurements of length, mass, volume	<ul style="list-style-type: none"> Problem solving – time 		

		and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.	
		Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	
	Geometry – position and direction	Describe positions on the full coordinate grid (all four quadrants).	<ul style="list-style-type: none"> • Problem solving – position and direction
	Geometry – properties of shapes	<p>Compare and classify geometric shapes based on their properties and sizes, and find unknown angles in any triangles, quadrilaterals and regular polygons.</p> <p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</p>	<ul style="list-style-type: none"> • Problem solving – properties of shapes
Statistics: approx. 2½ weeks	Statistics	Calculate and interpret the mean as an average.	<ul style="list-style-type: none"> • The mean
		Interpret and construct pie charts and line graphs and use these to solve problems.	<ul style="list-style-type: none"> • Introducing pie charts • Reading and interpreting pie charts • Fractions and pie charts
	Number – 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	<ul style="list-style-type: none"> • Percentages and pie charts
		Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison.	<ul style="list-style-type: none"> • Interpreting line graphs
		Interpret and construct pie charts and line graphs and use these to solve problems.	<ul style="list-style-type: none"> • Constructing line graphs