



St Peter's Maths Curriculum Overview – Year 6

(Some blocks may continue into start of the next term if all small steps have not been covered.)
 (Non-number blocks may also be taught out of sequence by teachers covering part-time class teachers.)

Autumn	Number Place value (2 weeks)	Number Addition, subtraction, multiplication and division (5 weeks)			Number Fractions A (2 weeks)	Number Fractions B (2 weeks)	Measurement (1 week) Converting units
Spring	Ratio (2 weeks)	Algebra (2 weeks)	Number Decimals (2 weeks)	Number Fractions, decimals and percentages (2 weeks)	Measurement Area, perimeter and volume (2 weeks)	Statistics (2 weeks)	
Summer	Geometry Shape (3 weeks)	Geometry (1 week) Position and direction	Themed projects, consolidation and problem solving				

Year 6 Maths Small Steps Curriculum Overview - Autumn Term

Number: Place Value	Number: Addition, Subtraction, Multiplication and Division	Number: Fractions
◆ Explore numbers to 1,000,000. Understand the value of each digit and revise standard and non-standard partitioning. ◆ Explore numbers up to 10,000,000. Understand the value of each digit in the number. Add and subtract multiples of 10, 100, 1,000, 10,000, 100,000 and 1,000,000 from the number. ◆ Understand powers of 10 - numbers increase by a power of 10 when numbers move to the left on a place value chart and decrease by a power of 10 as they move to the right e.g. multiplying or dividing by 10 three times has the same effect as multiplying or dividing by 1,000. ◆ Label, identify, estimate and find missing numbers on blank or partially completed number lines to 10,000,000. ◆ Compare and order any integers to 10,000,000 using comparative language and inequality symbols. ◆ Round any number up to 1,000,000 to any powers of 10. ◆ Use negative numbers in real-life contexts.	◆ Add and subtract numbers with any number of digits using formal column methods and mental strategies. Solve multi-step problems. ◆ Systematically find all factors of a number and common factors of two numbers. ◆ Work systematically to find multiples of a number and common multiples of two or more multiples. ◆ Explore rules of divisibility: Divisibility by 2, 5 or 10 - look at the ones digit. Numbers divisible by 4 - they halve to leave an even number, divisible by 8 - they will halve and halve again to leave an even number, divisible by 3 - the sum of the digits is divisible by 3, divisible by 9 - sum of the digits is divisible by 9, divisible by 6 - the number is divisible by both 2 and 3. ◆ Identify prime numbers (numbers with only two factors - 1 and itself) to one hundred and know numbers with more than 2 factors are composite numbers. ◆ Revisit square and cube numbers and explore the factors of them. (Square numbers have an odd number of factors but cube numbers can have odd or even number.) ◆ Multiply up to a 4-digit number by a 2-digit number by long multiplication and solve multi-step problems. ◆ Use a range of strategies to solve multiplication problems - column methods, multiply by powers of 10 and adjusting (e.g. when multiplying by 19 or 21, or 99 or 101), or by using factors e.g. If multiplying by 35, could multiply by 7, then multiply by 5. ◆ Use factors to divide. E.g. $600 \div 30 = 600 \div 10 \div 3$. ◆ Introduce long division - no remainders (Use chunking or formal ladder model). ◆ Complete long division with remainders - interpreting the remainder in word problems. ◆ Solve problems with division by choosing most appropriate strategy. ◆ Solve multi-step problems involving the 4 operations, choosing the most appropriate written, informal or mental method. ◆ Calculate using order of operations: brackets, powers, multiplication/division, addition/subtraction. ◆ Use mental calculations to find estimates in order to 'sense check' answers. ◆ Reason from known facts.	◆ Find equivalent fractions and write fractions in simplest form. ◆ Count in fractions on a number line and identify equivalent fractions. ◆ Compare and order fractions by finding a common denominator. ◆ Compare and order fractions by finding a common numerator. ◆ Add and subtract fractions (denominator is a multiple of another). ◆ Add and subtract fractions (denominators - not multiples of each other). ◆ Add mixed numbers (Adding wholes and fractional parts separately is often more efficient than converting to improper fractions). ◆ Subtract mixed numbers (Discuss a variety of methods). ◆ Solve multi-step fraction problems in a range of real-life contexts. ◆ Multiply fractions and mixed numbers by integers. ◆ Multiply fractions by fractions. ◆ Divide a fraction by an integer (numerator is a multiple of the integer). ◆ Divide a fraction by any integer (numerator is not a multiple of integer). ◆ Solve fraction problems using the 4 operations. ◆ Find the fraction of an amount. ◆ Find the whole amount given a fractional part. E.g. $\frac{1}{4}$ of ____ = 6
		Measurement — Converting Units ◆ Recap metric units for length (mm, cm, m, km), capacity (l, ml) and mass (g, kg). Introduce tonnes. Estimate measurements of objects. ◆ Convert between metric measurements of length, mass and capacity. ◆ Solve measurement problems in context. ◆ Explore relationship between miles and kilometres (5 miles is ~ 8km). ◆ Explore imperial measures. 1 inch = 2.5cm, 1 foot = 12 inches, 1 pound = 16 ounces, 1 stone = 14 pounds, 1 gallon = 8 pints.

Year 6 Maths Small Steps Curriculum Overview - Spring Term

Number: Ratio	Number: Decimals	Area, Perimeter and Volume
- Explore the relationship between two numbers. e.g. 8 is 6 more than 2, 2 is 6 less than 8 or 8 is four times the size of 2, or 2 is quarter the size of 8. - Use ratio language. E.g. For every 2 blue counters there are 3 red counters. - Introduce the ratio symbol. E.g. ____: ____ represents 'for every __, there are __' - Explore the differences and similarities between ratios and fractions. - Apply understanding of ratio through drawing scale diagrams. - Use scale factors to enlarge shapes and describe enlargements. - Explore similar shapes (shapes where the corresponding sides are in the same proportion and the corresponding angles are equal). - Solve a variety of problems involving ratio (bar models could be used). - Solve multi-step proportion problems. - Use knowledge of ratio/proportion to solve problems involving ingredients for recipes.	- Recap place value of numbers with up to 3 decimal places within 1. Identify the value of each digit in the number and partition in a variety of ways. - Explore place value of integers and decimals. Look at numbers with 3 decimal places that are greater than 1. - Round numbers with up to 3 decimal places to the nearest integer, tenth (one decimal place) or hundredth (2 decimal places). - Add and subtract numbers with up to 3 decimal places - with exchanges. - Multiply numbers with up to 3 decimal places by 10, 100 and 1,000. - Divide numbers with up to 3 decimal places by 10, 100 and 1,000. - Multiply numbers with up to 2 decimal places by integers. Partitioning could be used: $0.4 \times 14 = (0.4 \times 10) + (0.4 \times 4)$. - Divide decimals with up to 2 decimal places by integers. (Times table knowledge or formal short division methods can be used.) - Multiply and divide decimals in a variety of concepts and problems.	- Explore rectangles with same area. - Find area and perimeter of rectilinear shapes. - Find the area of a triangle by counting squares. - Find the area of a right-angled triangle using the formula: $\frac{1}{2}$ (base x perpendicular height) - Find the area of any triangle using the formula: $\frac{1}{2}$ (base x perpendicular height) - Find area of a parallelogram by using the formula: base x perpendicular height. - Calculate the volume of shapes by counting cubes. - Calculate the volume of a cuboid using the formula: length x width x height.
Number: Algebra	Fractions, Decimals and Percentages	Statistics
- Explore 1-step function machines. Understand terms: 'input', 'output', 'function', 'rule'. - Explore function machines with two steps. Understand the importance of following the order of the function e.g. $\times 5$ then $\div 3$ is different to $\div 3$ then $\times 5$. - Form algebraic expressions using letters to represent numbers. E.g. $t + t = 2t$. - Find values of expressions by substituting numbers in place of the letters. - Introduce formulae using symbols e.g. Area = length x width can be written as $A = lw$ or number of days in a given number of weeks: $d = 7w$ - Form equations from diagrams and word descriptions. - Solve 1-step equations. E.g. $X + 5 = 12$ - Solve 2-step equations. E.g. $2x + 5 = 17$. Link to 'I'm thinking of a number' examples. - Explore equations with two unknown values. What could x and y be? - Solve problems with two unknowns e.g. $x + 2y = 17$ and $x + 5y = 38$.	- Find decimal and fraction equivalents. E.g. $\frac{3}{4} = 0.75$ or $146/200 = 73/100 = 0.73$ - Relate fractions to division e.g. can be interpreted as $1 \div 5 = 0.2$. (Exchange a whole for tenths place value counters to explore.) $\frac{1}{5}$ - Understand percentages. Find multiples of 10% and use 10% to find 1%. - Relate fractions to percentages. - Explore fraction, decimal and percentage equivalents. - Use conversion skills to compare/order fractions, decimals and percentages. - Find percentages of an amount using one step. E.g. 1%, 10%, 20%, 25% and 50% by dividing by 100, 10, 5, 4 and 2 respectively. - Find percentages of an amount — using multiple steps - Find the whole of a number from a given percentage. E.g. 10% of ____ = 2.8	- Draw, read and interpret complex line graphs. - Read and interpret dual bar charts. - Read and interpret pie charts. - Read and interpret pies charts which use percentages. - Construct pie charts. - Find the mean (average) of a set of data.

Year 6 Maths Small Steps Curriculum Overview - Summer Term

Geometry: Properties of Shape	Geometry: Position and Direction	After SATS
◆ Classify angles as acute, right angle, obtuse and reflex. Measure angles using a protractor. ◆ Calculate missing angles within a right angle (90°), a straight line (180°) and around a point (360°). ◆ Understand that when 2 straight lines intersect at a point, 2 pairs of vertically opposite equal angles are created. Use this fact to find missing angles. ◆ Understand that the interior angles in a triangle always total 180° and use this fact to find missing angles. ◆ Calculate missing angles in different types of triangles: right angled triangle, isosceles triangle, equilateral triangle. ◆ Calculate the size of missing angles in increasingly complex problems. ◆ Calculate missing angles in a quadrilateral. Understand that any quadrilateral can be split into 2 triangles, so its interior angles must total 360°. Understand that opposite angles in a rhombus and parallelogram are equal. ◆ Explore the angles in 2D shapes of polygons with 5 or more sides. Understand that the number of triangles the shape can be split into is 2 less than the number of sides. Know that by multiplying the number of triangles by 180° gives the sum of the interior angles in the polygon. ◆ Understand the meaning of the terms 'radius', 'diameter' and 'circumference' of a circle and calculate the radius and diameter using the formula $d = 2r$. ◆ Draw shapes accurately when given specific dimensions. ◆ Identify and investigate nets of 3D shapes.	◆ Read co-ordinates and plot points in the first quadrant. ◆ Read co-ordinates and plot points in four quadrants. ◆ Use the properties of shapes to solve problems on co-ordinate grids. ◆ Complete translation of points and shapes on a co-ordinate grid involving 4 quadrants. ◆ Reflect shapes in the axis of a co-ordinate grid involving 4 quadrants.	Themed Projects Consolidation Problem Solving Activities