

AN OVERVIEW OF THE TOPCS TAUGHT IN MATHS

	Autumn Term	Spring Term	Summer Term
Year 6	<p>Place value to include numbers to 1,000,000 Numbers to 10,000,000 Number line to 10,000,000 Comparing and ordering numbers to 10,000,000 Rounding numbers Negative numbers</p> <p>Four Operations to include problem solving – using written methods of addition and subtraction Multiplying numbers of up to 4 digits by a 1-digit Multiplying numbers of up to 4 digits by a 2-digit Dividing numbers of up to 4 digits by a 2-digit Common factors Common multiples Recognising prime numbers up to 100 Squares and cubes Order of operations Brackets Mental calculations Reasoning from known facts</p> <p>Fractions to include simplifying fractions Fractions on a number line Comparing and ordering fractions Adding and subtracting fractions</p>	<p>Decimals to include multiplying by 10, 100 and 1,000 Dividing by multiples of 10, 100 and 100 Decimals as fractions Fractions as decimals Multiplying fractions Dividing decimals</p> <p>Percentages to include identifying common factors, common multiples and prime numbers Use their knowledge of the order of operations to carry out calculations involving the 4 operations Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p>Algebra to include using estimation to check answers to calculations and determine, in the context of a problem, in an accurate degree of accuracy</p> <p>Measurement to include metric units Converting metric measures Problem solving – metric measures Miles and km Imperial measures Shapes with the same area Area and perimeter</p>	<p>Properties of Shapes to include measuring with a protractor Drawing shapes accurately Angles in triangles Angles in Polygon Vertically opposite angles Equal distance Parts of a circle Nets</p> <p>Number – number and place value to include problem solving Problem solving – place value Problem solving – negative numbers Problem solving – addition and subtraction Problem solving – four operations Problem solving – fractions Problem solving – decimals Problem solving – percentages Problem solving – ratio and proportion Problem solving – time Problem solving – position and direction Problem solving – properties of shapes</p> <p>SATS Testing Statistics to include the mean Introducing pie charts Reading and interpreting pie charts Fractions and pie charts</p>



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	<p>Problem solving – adding and subtracting fractions Multiplying a fraction Dividing a fraction Calculating fractions Geometry – position and direction to include plotting coordinates Plotting translations and reflections Reasoning about shapes with coordinates PIXL Testing</p>	<p>Areas of a parallelogram Area of a triangle Problem solving –area Problem solving – perimeter Volume of a cuboid Ratio to include multiplying simple pairs of proper fractions, writing the answer in its simplest form Divide proper fractions by whole numbers Scale drawings Scale factors Similar shapes Problem solving – ratio and proportion PIXL Testing</p>	<p>Percentages and pie charts Interpreting line graphs Constructing line graphs</p>
Year 7	<p>Using numbers to include Timetable, charts and money Positive and negative numbers Adding negative numbers Subtracting negative numbers Sequences to include function machine Sequences and rules Finding missing terms Other sequences Perimeter, Area and Volume to include Perimeter and area, Perimeter and area of Rectangles Perimeter and area of compound shapes Volume of cubes and cuboids Assessment of 1</p>	<p>Algebra to include expressions and substitution Simplifying expression Using formulae Writing formulae Fractions to include equivalent fractions Comparing fractions Adding and subtracting fractions Mixed numbers and improper fractions Adding and subtracting mixed numbers Angles to include measuring and drawing angles Calculating angles Angles in a triangle</p>	<p>Symmetry to include line symmetry Rotational symmetry Reflections Tessellations Equations to include finding unknown numbers Solving equations Solving more complex equations Setting up and solving equations Interpreting Data to include Pie Charts Comparing mean and range Statistical surveys Assessment 5 3D shapes to include naming and drawing 3D shapes Using nets to construct 3D shapes</p>



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	<p>Decimals to include multiplying and dividing by 10, 100 and 1000. Ordering decimals Estimates Adding and subtracting decimals Multiplying and Dividing decimals Working with numbers to include square numbers and square roots Rounding Order of operations Long and short multiplications Long and short division Calculations with measurements Statistics to include mode, median and range The mean Statistical diagrams Collecting and using data Grouped frequency Data collection Assessment 2</p>	<p>Angles in a quadrilateral Properties of triangles and quadrilateral Assessment 3 Coordinates and Graphs to include Coordinates Graphs from relationships Graphs for fixed values of x or y Graphs of the form $y = ax$ Graphs of the form $x + y = a$ Percentages to include fractions, decimals and percentages Fractions of a quantity Percentages of a quantity Percentages with a calculator Percentage increases and decreases Probability to include probability words Probability scales Experimental probability Assessment 4</p>	<p>3D investigations Ratio to include introduction to ratios Simplifying ratios Ratios and sharing Solving problems Assessment 6</p>
Year 8	<p>Working with numbers to include multiplying and dividing negative numbers Factors and highest common factors (HCF) Lowest common multiple (LCM) Powers and roots Prime factors Geometry to include angles in parallel lines</p>	<p>Area of 2D and 3D shapes to include the area of a triangle Area of a parallelogram Area of a trapezium Surface area of cubes and cuboids Graphs to include Graphs from linear equations Gradient (steepness) of a straight line Graphs from quadratic equation</p>	<p>Fractions and decimals to include Adding and Subtracting fractions Multiplying fractions and integers Dividing with integers and fractions Multiplication with large and small numbers Division with large and small numbers Proportion and circles to include direct proportion</p>



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	<p>The geometric properties of quadrilaterals Rotations Translations Constructions Assessment 1 Probability to include probability scales Mutually exclusive outcomes Using a sample space to calculate probabilities Estimates of probability Percentages to include calculating percentages Calculating percentage increases and decreases Calculating a percentage change Sequences to include using flow diagrams to generate sequences The nth term of a sequence Working out the nth term of a sequence The Fibonacci sequence Assessment 2</p>	<p>Real-life graphs Simplifying numbers to include powers of 10 Large numbers and rounding Significant figures Standard form with large numbers Multiplying with numbers in standard form Assessment 3 Interpreting data to include pie charts Creating pie charts Scatter graphs and correlation Creating scatter graphs Algebra to include algebraic notation Like terms Expanding brackets Using algebraic expressions Using index notations Congruence and scaling to include congruent shapes Enlargements Scale and ratio Scales Assessment 4</p>	<p>Graphs and direct proportion Inverse proportion Comparing direct proportion and inverse proportion The circumference of a circle Formula for the circumference of a circle Formula for the area of a circle Assessment 5 Equations and formulae to include equations with brackets Equations with the variable on both sides More complex equations Rearranging formulae Comparing data to include grouped frequency tables Drawing frequency diagrams Comparing data Which average to use Assessment 6</p>
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