

OCL Maths Curriculum: Progression Map

Core Concepts (strands)	Number	Algebra	Geometry & Measures	Statistics & Probability	Ratio and proportion
Year 7	Unit 1 – numbers and numerals Unit 2 – axioms and arrays Unit 3 – factors and multiples Unit 4 – order of operation Unit 5 – positive and negative numbers Unit 13 – prime factor decomposition Unit 14 – equivalent fractions Unit 15- all operations acting on fractions Unit 17 – percentages	Unit 6 – expressions, equations, inequalities	Unit 7 – angles Unit 8 – classifying 2D shapes Unit 9 – constructing triangles and quadrilaterals Unit 10 – co-ordinates (introduction) Unit 11 – area of 2D shapes Unit 12 – transforming 2D figures		Unit 16 – introduction to ratio
Year 8	Unit 1 – Sequences (Linear and non-linear) Unit 8 – accuracy and estimation	Unit 2 - Forming and Solving Equations Unit 3 – forming and solving inequalities Unit 4 – linear graphs and identify key features of linear graphs	Unit 11 – angles in parallel lines and polygons Unit 12 – bearings Unit 13 – circles (circumference and area including semi-circles and quarter-circles) Unit 14 – 3D Shapes (Properties) Unit 15 – surface area and volume of prisms	Unit 9 – univariate data (construct and interpret charts and graphs, mean, mode, median, range) Unit 10 – bivariate data (scatter graphs) (comparing two data sets)	Unit 5 – ratio and problem solving (including converting ratio to fractions and equations) Unit 6 - Real life graphs and rate Unit 7 – direct and inverse proportion

<p>Year 9</p>	<p>Unit 4 – Standard Form</p> <p>Unit 12 – upper and lower bounds</p>	<p>Unit 2 – Linear Graphs Parallel and perpendicular lines</p> <p>Unit 5 – Simplifying algebraic expressions & Expanding and Factorising</p> <p>Unit 6: Linear equations (recap unknown on both sides, apply to perimeter)</p> <p>Unit 7 – Algebraic Manipulation</p> <p>Unit 13 – Inequalities</p> <p>Unit 14 – Simultaneous Equations (both linear, solve graphically and algebraically)</p> <p>Unit 15 – Quadratic and other Graphs</p>	<p>Unit 1 – Coordinates (solve problems using coordinate grid)</p> <p>Unit 9 – Constructions and Loci</p> <p>Unit 10 – Congruence and Similarity</p> <p>Unit 11 – Triangles and Quadrilaterals (recap on properties and exploring diagonals and tessellations)</p> <p>Unit 16 – Pythagoras</p> <p>Unit 17 – Trigonometry</p> <p>Unit 18 – Proof</p>	<p>Unit 8 – Probability</p> <p>Unit 19 – Mean from Grouped Data</p> <p>Unit 20 – Cumulative Frequency and Box Plots</p>	<p>Unit 3 – Direct, Inverse Proportion</p>
<p>10 higher</p>	<p>Unit 1 – powers and roots</p> <p>Unit 2 – surds and irrational numbers</p> <p>Unit 3 – indices</p> <p>Unit 4 – standard form (recap)</p> <p>Unit 5 – sequences (including geometric and quadratic sequences (including finding nth term))</p> <p>Unit 6 – fractions, decimals and percentages</p> <p>Unit 7 – percentages (including simple and compound interest and growth and decay problems)</p>	<p>Unit 9 – quadratics (quadratic formula, completing the square)</p> <p>Unit 10 – quadratic graphs (sketch graphs)</p> <p>Unit 11 – algebraic fractions</p> <p>Unit 12 – simultaneous equations (recap both linear), solve one linear with one quadratic including equations of circles)</p>	<p>Unit 13 – transformations (combined transformation)</p> <p>Unit 14 – 2D shapes including circle geometry (recap circumference and area, move to equation of circle etc)</p> <p>Unit 15 – Pythagoras’ Theorem review (Including 3D)</p> <p>Unit 16 – 3D shapes (Elevations recap)</p> <p>Unit 17 – volume and surface area (spheres, pyramids, cones, does include some Pythagoras for cones)</p> <p>Unit 19 – similarity and trigonometry including 3D shapes</p> <p>Unit 20 – further trigonometry (areas of triangle, sine and cosine rule including applying in bearing context)</p>	<p>Unit 8 – probability, sets and Venn diagrams (Recap, product rule, tree diagrams without replacement)</p> <p>Unit 21 – averages and range (problem solving and from tables)</p> <p>Unit 22 – data collection and sampling</p> <p>Unit 23 – presenting data including scatter graphs (recap on Y8)</p> <p>Unit 24 – further statistical diagrams (histograms, cumulative frequency, and box plots)</p>	<p>Unit 18– compound measure and direct and indirect proportion</p>

<p>10 foundation</p>	<p>Unit 1 – factors, multiples and primes</p> <p>Unit 2 – powers and roots</p> <p>Unit 3 – indices</p> <p>Unit 4 – standard form (recap)</p> <p>Unit 5 – sequences (including geometric sequences and recognising quadratic sequences)</p> <p>Unit 6 – fractions, decimals and percentages</p> <p>Unit 7 – percentages (including simple and compound interest and growth and decay problems)</p>	<p>Unit 9 – algebra (KS3 review)</p> <p>Unit 10 – quadratics</p> <p>Unit 11 – quadratic graphs (sketching graphs using key points)</p> <p>Unit 12 – simultaneous equations (recap both linear)</p>	<p>Unit 13 – transformations (recap)</p> <p>Unit 14 – 2D shapes including circle geometry (rounding recap, area of triangles and quad recap, leading to areas and perimeters of sectors)</p> <p>Unit 15 – Pythagoras’ Theorem review (Including 3D)</p> <p>Unit 16 – 3D shapes (Elevations recap)</p> <p>Unit 17 – volume (spheres, pyramids, cones) and surface area (3D prisms)</p> <p>Unit 19 – similarity and Trigonometry (recap and applied problem solving – coordinate plane, angles of elevations)</p>	<p>Unit 8 – probability, sets and Venn diagrams (recap, product rule, frequency tree and probability trees with replacement)</p> <p>Unit 20 – averages and range (problem solving and from tables)</p> <p>Unit 21 – data collection and sampling</p> <p>Unit 22 – presenting data including scatter graphs (recap on Y8)</p>	<p>Unit 18 – compound measure and direct and indirect proportion</p>
<p>11 higher</p>		<p>Unit 30 – linear graphs (recap)</p> <p>Unit 31 – inequalities (recap including regions and quadratic inequalities)</p> <p>Unit 32 – non-linear graphs</p> <p>Unit 33 – trigonometric graphs</p> <p>Unit 34 – algebraic proof and reasoning</p> <p>Unit 35 – recurrence relation (decimal search method, iteration)</p> <p>Unit 36 – functions</p> <p>Unit 37 – transformation of graphs</p> <p>Unit 38 – further graphs (velocity time graphs, area under graphs)</p>	<p>Unit 25 – vectors</p> <p>Unit 26 – geometric reasoning (rename as angles in polygons)</p> <p>Unit 27 – circle theorems</p> <p>Unit 28 – bearings (recap and linking to all trigonometry)</p> <p>Unit 29 – congruence (recap)</p>		
<p>11 foundation</p>		<p>Unit 27 – linear graphs (recap)</p> <p>Unit 28 – linear inequalities (recap)</p> <p>Unit 29 – non-linear graphs</p>	<p>Unit 23 – vectors</p> <p>Unit 24 – geometric reasoning (rename as angles in polygons)</p> <p>Unit 25 – bearings (recap and with right angled trig)</p> <p>Unit 26 – congruence (recap)</p>		

<p>Relevant end point</p>	<p>-consolidating their numerical and mathematical capability and extending their understanding of the number system to include powers and roots</p> <p>- selecting and using appropriate calculation strategies to solve increasingly complex problems and use application and interpretation of limits of accuracy.</p>	<p>-use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships</p> <p>- extend their mathematical fluency from previous years and extend their understanding of algebraic simplification and manipulation to include quadratic expressions, {and expressions involving surds and algebraic fractions}</p> <p>-develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems</p>	<p>-use language and properties precisely to analyse 2-D and 3-D shapes</p> <p>-reasoning deductively in geometry including using geometrical constructions</p> <p>-begin to model situations mathematically and express the results using a range of formal mathematical representations</p>	<p>-use language and properties precisely to analyse probability and statistics</p> <p>-exploring what can and cannot be inferred in statistical and probabilistic settings and express their arguments formally.</p> <p>-assessing the validity of an argument and the accuracy of a given way of presenting information.</p>	<p>-Extending and formalising their knowledge of ratio and proportion and formulating proportional relations</p> <p>-Identify the connection between ratio and different forms, such as equations and fractions, and develop fluency in converting between them</p> <p>-develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics</p>
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