

# Achievement Cycle Overview

## Curriculum:

Year	AC1	AC2	AC3
<b>7</b>	<p>Topic Overview (from Co Design Theme): Sequences Algebra Fractions, decimals and percentage equivalence Decimal and fraction arithmetic</p> <p>NC links: linear sequences, nth term, non-linear sequences, algebraic notation, like terms, solving linear equations, place value, terminating decimals, 4 operations, ordering numbers</p> <p>GCSE Links: quadratic and linear sequences, solving equations with fractions, factorising</p>	<p>Topic Overview (from Co Design Theme): Area and Perimeter Ratio Directed number HCF, LCM and primes</p> <p>NC links: writing expressions to model, using units, using formulae for perimeter and area of 2d shapes, solve problems with circles, ratio notation and use, sharing using ratios, 4 operations with negative numbers, substitution, multiples, factors and primes.</p> <p>GCSE Links: combining ratios, solving ratio problems in context, prime factorisation, sectors and arcs,</p>	<p>Topic Overview (from Co Design Theme): Lines and angles Probability Statistics</p> <p>NC links: using units, drawing and measuring angles, constructing triangles, using angle properties, using Venn diagrams, probability scale, measures of central tendency</p> <p>GCSE Links: sets, angles in polygons, circle theorems, multi-event probability, combining means, comparing distributions</p>
<b>8</b>	<p>Topic Overview (from Co Design Theme): Ratio and proportion Cartesian plane Statistics and probability Fractions: Multiplication and division</p> <p>NC links: express on quantity as a fraction of another, multiplicative relationships, ratios and problem solving, coordinates, functions in 1 variable, describing and interpreting data in various representations, bivariate data</p> <p>GCSE Links: correlation and predictions, equation of straight line, probability, fraction arithmetic, algebraic fractions</p>	<p>Topic Overview (from Co Design Theme): Algebra Standard index form Percentages Unit conversions and estimation</p> <p>NC links: expanding two or more binomials, use notation for powers, factorising, standard index form, problems with percentage change and increase or decrease, using units, rounding and estimation</p> <p>GCSE Links: rearranging formulae, inequalities and regions, using percentages to solve questions in context, bounds</p>	<p>Topic Overview (from Co Design Theme): Angles and polygons Area and perimeter of shapes Reflection and line symmetry Statistics</p> <p>NC links: angle notation, angle properties of polygons, 2d problems using area and perimeter, rotations and reflections, construct and interpret data in several formats</p> <p>GCSE Links: complex angle problems, circle theorems, combining transformations, cumulative frequency</p>
<b>9</b>	<p>Topic Overview (from Co Design Theme): Algebra Cartesian plane Constructions and congruency 3d shapes</p> <p>NC links: algebraic methods, interpreting mathematical relationships, 4 quadrants, functions in 1 variable, sketching graphs, constructions and loci, congruency, surface area and volume</p> <p>GCSE Links: 3d geometry, similarity on 3d, quadratic functions</p>	<p>Topic Overview (from Co Design Theme): Percentages Rotation and translation Pythagoras Trigonometry</p> <p>NC links: percentage change, using multipliers, rotations and translations, using a calculator, Pythagoras and trigonometric ratios</p> <p>GCSE Links: Sine rule, cosine rule, repeated percentage change, combining transformations</p>	<p>Topic Overview (from Co Design Theme): Enlargement and similarity Ratio and proportion Rates Probability</p> <p>NC links: scale factors, constructions, direct and inverse proportion, compound measures combined events.</p> <p>GCSE Links: similarity in 2d and 3d, complex ratio problems, proportion in context, tree diagrams and conditional probability</p>

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<b>10</b> <b>T</b>	<p>Topic Overview (from Co Design Theme): Number Algebra Coordinate geometry Surface area and volume Transformations</p> <p>NC links: Factorising, expanding, area and volume, straight line graphs, solving equations, enlargements, rotations, reflections, translations, 3d shapes</p>	<p>Topic Overview (from Co Design Theme): Quadratics (including formula and iterations) Simultaneous equations Probability Percentage of an amount Ratio and proportion</p> <p>NC links: percentages and decimal equivalents, factorising quadratic expressions, outcomes and probability, direct proportion and unitary method</p>	<p>Topic Overview (from Co Design Theme): Congruence and similarity Pythagoras and Trigonometry Statistics Graphs and measures Constructions and elevations</p> <p>NC links: right angled triangles, powers and roots, averages and range, proportion, coordinates</p>
<b>10</b> <b>A</b>	<p>Topic Overview (from Co Design Theme): Number Algebra Coordinate geometry Surface area and volume Transformations</p> <p>NC links: surds, index laws, straight lines graphs, 3d shapes (cones, spheres), enlargements, rotations, reflections, translations</p>	<p>Topic Overview (from Co Design Theme): Quadratics (including formula and iterations) Simultaneous equations Probability % multipliers Ratio and proportion</p> <p>NC links: factorising quadratic expressions, solving quadratic equations, simultaneous equations, decimals, proportion and ratio</p>	<p>Topic Overview (from Co Design Theme): Similarity in 2d and 3d Trigonometry Statistics Graphs and measures Circle geometry – gradients and tangents</p> <p>NC links: proportion, 2d geometry, representation of data and averages, non-linear functions, equation of a circle</p>
<b>11</b> <b>T</b>	<p>Topic Overview (from Co Design Theme): Plans, elevations and constructions Angles and bearings Solving equations and inequalities Vectors</p> <p>NC links: Factorising, expanding, 2d shapes, angles, solving equations, 3d shapes, scale, number line</p>	EXAM PREPERATION	EXAM PREPERATION
<b>11</b> <b>A</b>	<p>Topic Overview (from Co Design Theme): Compound measures Non-linear graphs and their analysis Equation of a circle Circle Theorems Algebraic fractions</p> <p>NC links: proportion, solving equations, factorising, coordinates, angles, fractions</p>	<p>Topic Overview (from Co Design Theme): Functions Algebraic proof Congruence and Geometric proof Vectors</p> <p>NC links: operations and inverse operations, equivalence, congruence, similarity, proportion, parallel</p>	EXAM PREPERATION

Year	AC1	AC2	AC3
<b>12</b>	<p>Topic Overview: Algebraic expressions Quadratics Equations and inequalities Binomial theorem Constant acceleration Graphs and algebraic methods Trigonometry Straight line graphs Forces and Motion</p> <p>NC links: factorising, expanding, coordinates, functions, substitution, angles</p>	<p>Topic Overview: Differentiation Integration Circles Probability Exponentials and logarithms</p> <p>NC links: Pythagoras' theorem, indices, probability, area</p>	<p>Topic Overview : Integration Vectors Statistical distributions Variable acceleration</p> <p>NC links: area, compound measures, averages</p>
<b>13</b>	<p>Topic Overview: Algebraic methods Functions and graphs Sequences and series Binomial expansion Radians Trigonometry Parametric equations Differentiation</p> <p>NC links: factorising, expanding, coordinates, functions, substitution, angles, iteration</p>	<p>Topic Overview :</p> <p>Numerical methods Integration Vectors Moments Forces and friction Projectiles Application of forces Further kinematics Regression and Correlation Conditional probability The normal distribution</p> <p>NC links: proportion, areas, correlation, probability, averages, quadratics</p>	EXAM PREPERATION
<b>12F M</b>	<p>Topic Overview: Complex numbers (Core Pure1) Series (Core Pure1) Matrices (Core Pure1) Proof by induction (Core Pure1) Roots of polynomials (Core Pure1) Argand diagrams (Core Pure1) Linear transformations (Core Pure1) Vectors (Core Pure1) Vectors (Further Pure1)</p>	<p>Conic sections 1 (Further Pure) Inequalities (Further Pure) The t-formulae (Further Pure) Momentum and impulse (Further Mechanics1) Work, energy and power (Further Mechanics1)</p>	<p>Work, energy and power (Further Mechanics1) Elastic collisions in one dimension (Further Mechanics1) Volumes of revolution (Core Pure1) Numerical methods (Core Pure1)</p>