Co-op Academy Walkden Curriculum Overview 2025-2026

Co-op Academy Walkden

KS3 Subject:	Mathematics						
KS4 Qualifications	Mathematics						
5 Power Concepts:		Number	Algebra	Ratio & Proportion	Geometry	Probability & Statistics	
Year Group	Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7 (following the Ark Mathematics Mastery Curriculum)	Title/Theme	The decimal number system		Algebraic representations	2D Geometry	Fractions	Ratio & Proportion
	Units	- Place value - Non-integers - Multiplying and dividing by powers of 10 - Commutativity, associativity, distributivity - Factors, multiples and primes - Prime factor decomposition	- Order of operations - Representing and ordering negative numbers - Calculating with negative numbers	- Representing algebraic expressions - Simplifying algebraic expressions - Substitution - Expanding and factorising - Basic equations - Coordinates - Generalising with linear relationships	- Describing, measuring and drawing angles - Finding missing angles - Angles in parallel lines - Angles in triangles and quadrilaterals - Classifying quadrilaterals - Area and perimeter	- Representing and comparing fractions - Equivalent fractions - Simplifying fractions - Calculating with fractions	- Representing ratios - Scaling and equivalence of ratios - Representing data
8 (following the Ark Mathematics Mastery Curriculum)	Title/Theme	The decimal number system	Linearity	Using algebra in geometry	Proportion	Perimeter, Area & Volume	Data Handling
	Units	- Locating non-integers on a number line - Rounding to a specified degree of accuracy - Estimating calculations - Convert between FDP - Calculate with percentages	- Simplify and substitute into expressions - Expand and factorise into single brackets - Solve problems involving linear and non-linear sequences - nth term of linear sequences - Linear graphs (plotting and generalising)	- Solve equations (including with brackets and unknowns on both sides) - Solve and represent inequalities - Generalise to be able to find interior and exterior angles of polygons	- Represent linear, piecewise and non-linear relationships - Distance-time graphs - Speed as an example of rate - Direct and inverse proportion	- Parts of a circle - Understanding π and using it to calculate area and circumference - Properties of 3D shapes - Volume and surface area of prisms	- Categorising, collecting and represent data - Mean, median, mode and range (including from frequency tables) - Bar charts and pie charts - Scatter graphs
9 (following the legacy Curriculum)	Title/Theme	Algebra	Geometry	Number	Geometry	Applications of Proportionality	Representations
	Units	- What are the properties of linear graphs? - How can we form and solve equations? - How can we test conjectures?	- What is the difference between 2D and 3D? - How can we accurately construct?	- How can we calculate with number? - How can we calculate with percentages? - How can we solve problems with money?	- How can I solve geometrical problems? - How can I transform shapes? - What is Pythagoras' Theorem?	- How can we enlarge shapes? - How can we solve proportionality problems? - What is a rate?	- How can we represent outcomes? - What do non-linear graphs look like?
10 **Underlined content is Higher tier only**	Title/Theme	Algebra & Number	Functions, Triangles & Recurrence	Number & Geometry	Graphs	Representing Mathematical Concepts	Graphs, Tables & Charts
	Units	- HCF, LCM product of primes - Expanding & Factorising - Indices, standard form & **surds** - Linear and **quadratic** equations	- Function machines & expressions - Pythagoras & Trigonometry - Fractions and **recurring decimals**	- Calculating with percentages - Area and circumference - Volume	- Linear graphs - Real-life graphs - Quadratic graphs - **Quadratic sequences**	- Angles in parallel lines & polygons - Probability - Transformations (Foundation) - **Scatter graphs** .	- Averages - Representing data - Sequences - Ratio - **Simultaneous equations** - **Kinematic graphs**
11 Foundation	Title/Theme	Data and Proportion	Real-Life Maths	Further Algebra and Geometry	Constructions, Congruence & Loci	Revision	
	Units	- Pie charts, scatter graphs, frequency polygons - Sequences - Ratio - Direct and inverse proportion	- Money problems - Metric conversions - Rates of pay	- Non-linear graphs - Equations - Simultaneous equations - Vector arithmetic	- Congruence - Bearings - Loci	Exam style questions.	
	Title/Theme	Ratio & Proportion	Further Geometry	Applications of Algebra			

11 Higher	Units	- Transformations - Similarity - Direct and inverse proportion - Ratio	- Bearings - Rationalising the denominator - Trigonometric graphs - Non-right angled trigonometry	- Algebraic fractions - Algebraic proof - Non-linear graphs - Equation of a circle	- Graphing linear and quadratic inequalities - Circle theorems - Vectors - Histograms, boxplots and cumulative frequency - Compound measures - Bounds	- Iteration - Transforming functions - Proving congruence - Loci	