Mathematics including GCSE Statistics

	HALF TERM 1	HALF TERM 2	HALF TERM 3	HALF TERM 4	HALF TERM 5	HALF TERM 6
7	Sequences Algebraic Notation And Substitution Expressions And Equations	Place Value, Ordering And Rounding Four Operations Average And Range Rounding (Core Estimating)	Graphing Data Fractions Decimals And Percentages	Directed Number Fractions And Percentages Of Amounts Perimeter And Area	Speed Distance And Time (Support Four Operations Of Decimals) Properties Of Number	Addition And Subtraction Of Fractions Angles And Polygons
8	Ratio Proportion And Scale	Coordinates And Graphs Multiply Fractions	Area Volume And Density Equations And Inequalities Percentages	Indices Standard Index Form Interpret And Represent Data	Angles In Parallel Lines And Polygons Tables Of Probability Line Symmetry And Reflection	Circles Graphs And Charts
	Support: Directed Number		Support: Area Volume Equations Percentages And Fractions	Support: Decimal Arithmetic And Rounding Expressions And Indices Standard Index Form Interpret And Represent Data		Support: Circles Graphs And Charts Sequences Symmetry And Reflection
9	Straight Line Graphs Forming And Solving Equations Testing Conjectures	Three-Dimensional Shapes Constructions And Congruency	Numbers Using Percentages Maths And Money	Angle Deduction Rotation And Translation Pythagoras' Theorem	Enlargement And Similarity Solving Ratio And Proportion Problems Rates	Probability Algebraic Representation Circle Geometry (Polygon Geometry)
10	Algebraic Manipulations Equations, Inequalities And Formulae Quadratic Expressions And Equations Percentages	Ratio And Scale Work With Fractions Non-Calculator Methods Straight Line Graphs Probability	Rounding And Estimating Perimeter Area And Volume Interpret And Represent Data	Non-Linear Graphs Angles Graphs And Diagrams	Vectors Factor And Powers Pythagoras Theorem And Trig	Simultaneous Equations Ratio And Proportion End Of Year Assessments Further Education Visits

11 **F**	Inequalities Ratios Compound Units	Probability Vectors Y11 Mock Exams	Angles And Bearings With Trig Constructions And Loci Past Paper Fridays	Gap Intervention Based On Mock Analysis REVISION	Revision	
11 **H**	Geometry Similar Shapes Direct And Indirect Proportion Compound Measures Start Of A Paper Revision	Probability Vectors Further Trigonometry Transformation Of Graphs Construction And Loci Y11 Mock Exams Past Paper Fridays	Velocity Time Graphs Function Notation Iteration Simultaneous Equations	Gap Intervention Based On Mock Analysis Revision	Revision	

KS4 Statistics						
10	Data Collection	Measures Of Location And Spread	Statistical Diagrams	Scatter Graphs And Box Plots	Time Series	Statistical Enquiry Cycle
11	Probability Theory	Probability Distributions	Other Summary Statistics	Revision		

Scope:
In Maths at the academy, we strive to provide each of our students with the skills and qualities needed to be effective mathematicians. Our curriculum provides students with the disciplinary knowledge and time to become fluent in mathematical

notation and procedures, whilst challenging them to reason mathematically and apply their learning to both familiar and unfamiliar problems. We provide these learning opportunities through the study of core mathematical strands of Number, Ratio & Proportion, Algebra, Geometry, Probability, and Statistics, meaning that students experience the scope of the National Curriculum as a minimum.

Rigour:
To be a successful Mathematician, students need a broad set of core skills, but also the ability to question the problem in front of them, identify the appropriate skills, and apply them effectively in the context. The interleaving of content throughout our curriculum supports students in developing their mathematical thinking skills by providing extensive opportunities for them to apply their knowledge to a range of contexts. For example, when studying geometric notation in half term 6 of year 7, students will learn to apply their learning to enable them to explain their working with reasoning. As students progress through our curriculum and gain a broader set of core knowledge and skills, the range of opportunities to link the five core mathematical strands become more commonplace, enabling students to tackle multi-step problems.

Sequencing:
As a naturally hierarchical subject, the sequencing of our curriculum is heavily guided by the demands that each new piece of knowledge places on prior learning. Further, topics are interleaved throughout our curriculum, deepening at each stage. By spacing related and dependent content across the curriculum, we support students in strengthening their ability to retrieve core knowledge as we introduce each new piece of learning.

Similarly, the introduction of algebraic notation and the solving of basic linear equations in term 1 of year 7 creates the foundation for students in year 7 to solve equations involving angles in parallel lines in term 6 and year 8 students to think abstractly about linear sequences. In year 9 students consider how sequences could be represented visually as linear graphs and the link between $y = mx + c$ and the nth rule of a sequence. It is the learning from these three years that allows students to understand the mathematical significance of the solutions to simultaneous equations in year 10.

Coherence:
In early Key Stage 3, much of the content taught lies explicitly within each of the five strands of number, ratio & proportion, algebra, geometry, and probability & statistics. This is because fluency in these areas of core knowledge and routine provides the strong

foundation onto which subsequent schema can be built. For example, students' understanding of angles (Y7 HT6), fractions (Y7 HT6), units of measure (Y7 HT6), shape (Y8 HT3), and proportion (Y8 HT1) facilitate the study of congruence and similarity in half term 4 of year 9.