

Curriculum intent statement for Maths:

**We aim to develop all students into mathematicians who:**

- **have a coherent framework of knowledge about the mathematical areas of Number, Algebra, Geometry and Measure, Probability and Statistics, Ratio and Proportion;**
- **become fluent in the language of mathematics, have the ability to reason mathematically and have confidence in solving increasingly complex problems by applying a combination of mathematical skills to routine and non-routine problems with increasing sophistication;**
- **understand the practical applications of mathematics, relish the challenge that studying mathematics provides and believe that by working hard at mathematics they can succeed.**

Year 7						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Topics</b>	Place Value Negative Numbers Using the Inequality Symbol Order of operations	Rounding Special Numbers Fractions Perimeter	Reciprocals Prime Factor Decomposition HCF and LCM Fractions Area	Algebra Sequences	Angles Solving Equations	Using a Calculator Transformations
<b>Skills</b>	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.
<b>Links</b> <a href="#">KS3 Nat. Curriculum</a>	NC: Number N1, N2, N4, N5	NC: Number N3, N4, N7, N11, G1, G2	NC: Number N2, N3, N4, N5, G1, G2	NC: Algebra A1, A2, A3, A4, A6, A7, A14, A15, A16	NC: G10, G12, G13, A7, G3	NC: A15, G8
Year 8						
<b>Topics</b>	Indices & Roots Significant figures Standard Form	Expressions & Equations	2D Geometry	Proportional Reasoning inc. Bar Model	3D Geometry	Statistics Codes and Ciphers



<a href="#">AQA Assessment Objectives</a>	AO1.1, 1.2, 1.3; AO2.1, 2.2, 2.3; AO3.1, 3.2, 3.3,	AO1.1, 1.3; AO2.1, 2.2, 2.2; AO3.1, 3.2	AO1.1, 1.3 AO2.1, 2.2, 2.3 AO3.2, 3.3, 3.4	AO1.1, 1.2, 1.3; AO2.1, 2.4; AO3.1, 3.2, 3.3	AO1.1, 1.2, 1.3; AO2.2, 2.3; AO3.1	AO1.1, 1.2, 1.3; AO2.2, 2.3; AO3.1
Links	AQA Spec: P1 - P9	AQA Spec: R3 - R8, R10, R13, R4, N11	AQA Spec: A1-A7, A17 - A22	AQA Spec: A23, A24, A25, R1, R11, G14, N13	AQA Spec: R1, R11, G14, N13, G1, G2, G3, G4, G5, G6, G12, G13	AQA Spec: R2, G15
<b>Year 11</b>						
Topics	Transformations, plans and elevations  Similarity and congruence  Statistics  Circle Theorems	Vectors  Trigonometry recap and extension	Targeted GCSE revision using the QLA documents following the PPEs.	Targeted GCSE revision using the QLA documents following the PPEs.	Targeted GCSE revision using the QLA documents following the PPEs.	Targeted GCSE revision using the QLA documents following the PPEs.
Skills <a href="#">AQA Assessment Objectives</a>	Fluency, Problem Solving, Reasoning. AO1.1, 1.2, 1.3; AO2.1, 2.2, 2.3, 2.4, 2.5; AO3.1, 3.2, 3.3, 3.4, 3.5	Fluency, Problem Solving, Reasoning. AO1.1, 1.2, 1.3; AO2.1, 2.2, 2.3, 2.4; AO3.1, 3.2, 3.3, 3.4	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.	Fluency, Problem Solving, Reasoning.
Links	AQA Spec: G6, G7, G24, G8, G29, R12	AQA Spec: R12, G20, G21, G22				

### Year 12 Mathematics (AQA - 7357 Course)

Topics	<p><b>Teacher A</b></p> <p><i>Pure Mathematics:</i> 1.Quadratics</p> <p><i>Mechanics:</i> 2.Kinematics (C1,2,4) 3.Motion with constant acceleration</p> <p><b>Teacher B</b></p> <p><i>Pure Mathematics:</i> 1.Indices and Surds 2.Polynomials 3.Using Graphs</p>	<p><b>Teacher A</b></p> <p><i>Mechanics:</i> 1.Vectors 2.Forces and Motion 3.Objects in Context</p> <p><b>Teacher B</b></p> <p><i>Pure Mathematics</i> 1.Using Graphs 2.Coordinate Geometry 3.Proof and Mathematical Communication</p>	<p><b>Teacher A</b></p> <p><i>Pure Mathematics:</i> 1.Differentiation 2.Applications of Differentiation</p> <p><b>Teacher B</b></p> <p><i>Pure Mathematics</i> 1.Proof and Mathematical Communication 2.Binomial Expansion</p> <p><i>Statistics</i></p>	<p><b>Teacher A</b></p> <p><i>Pure Mathematics:</i> 1.Integration</p> <p><i>Mechanics</i> 2.Kinematics (S3,5)</p> <p><i>Pure Mathematics:</i> 3.Trigonometric Functions and equations 4.Triangle Geometry</p> <p><b>Teacher B</b></p>	<p><b>Teacher A</b></p> <p><i>Pure Mathematics:</i> 1.Logarithms 2.Exponential</p> <p><b>Teacher B</b></p> <p><i>Statistics</i> 1.Statistical Hypothesis Testing 2.Large Data Set</p>	<p><b>Teacher A</b></p> <p>1.Exam Preparation and Revision</p> <p>2.Begin A2 content (TBC)</p> <p><b>Teacher B</b></p> <p>1.Exam Preparation and Revision</p> <p>2.Begin A2 content (TBC)</p>
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			3.Working with Data	<i>Statistics</i> 1.Working with Data 2.Probability 3.Statistical Hypothesis Testing		
<b>Skills</b>	Fluency, Problem P, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique
<b>Links</b> Referring to <a href="#">AQA specification</a>	<b>Teacher A</b> 1. B3 2. P1 3. Q1,Q2,Q3  <b>Teacher B</b> 1.B1, B2 2.B6 3.B4, B5, B7, B9	<b>Teacher A</b> 1.J1,J2,J3,J4,J5 2. R1,R2,R3, R4  <b>Teacher B</b> 1.B4, B5, B7, B9 2.C1, C2 3.A1	<b>Teacher A</b> 1. G1,G2 2.G3  <b>Teacher B</b> 1.A1 2.D1 3.L1, L2, L3, L4	<b>Teacher A</b> 1. H1,H2,H3 2.Q4 3. E1 4. E3,E5,E7  <b>Teacher B</b> 1.L1, L2, L3, L4 2.M1, N1 3.K1, O1, O2	<b>Teacher A</b> 1. F3, F4, F5 2. F1, F2, F6, F7  <b>Teacher B</b> 1.K1, O1, O2 2.Sectoion 3.21.1	<b>Teacher A</b> TBC  <b>Teacher B</b> TBC
<b>Year 13 Mathematics (AQA - 7357 Course)</b>						
<b>Topics</b>	<b>Teacher A:</b> Introduction to Radians Further Trigonometry Calculus of Exponential and Trigonometric Functions Further Differentiation Further Integration Techniques  <b>Teacher B:</b> Transformations of Graphs Rational Functions and Partial Fractions General Binomial Expansion Radian Measure	<b>Teacher A:</b> Further Integration Techniques Further Applications of Calculus Differential Equations Proof  <b>Teacher B:</b> Radian Measure Functions Sequences and Series	<b>Teacher A:</b> Forces in Context Moments Numerical Solutions of Equations  <b>Teacher B:</b> Sequences and Series Conditional Probability	<b>Teacher A:</b> Numerical Solutions of Equations Numerical Integration Application of Vectors Projectiles  <b>Teacher B:</b> Conditional Probability The Normal Distribution Further Hypothesis Testing	Examination Preparation	Examination Preparation
<b>Skills</b>	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique
<b>Links</b>	<b>Teacher A:</b> E4, E5, E6, E8, E9 G1, G2, H2,	<b>Teacher A:</b> H5, H6 G1, C3, C4, G5, H3	<b>Teacher A:</b> R2, R4, R5, R6 P1, S1	<b>Teacher A:</b> I1, I2, I4 H4, I3		

Referring to <a href="#">AQA specification</a>	G4, G5 H5, H6  <b>Teacher B:</b> B7, B9 B6, B10 D1 E1, E2, E3	G6, H7, H8 A1  <b>Teacher B:</b> E1, E2, E3 B8, B11 D2, D3, D4, D5, D6	I1, I2, I4  <b>Teacher B:</b> D2, D3, D4, D5, D6 M2, M3	J1, J2, J3, J4, J5, Q3, Q4 J5, Q5  <b>Teacher B:</b> M2, M3 N2, N3 O1, O3		
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Level 3 Mathematical Studies 'Core Maths' (AQA - 1350 Course)						
<b>Topics</b>	<b>Teacher A:</b> Types of data and collecting data  Sampling data  Representing data numerically  Representing data diagrammatically  <b>Teacher B:</b> Numerical Calculation Introduction to Spreadsheet Percentages Taxation: Income Tax and National Insurance	<b>Teacher A</b> Analyse Critically  <b>Teacher B</b> Repayments and credit Interest Rates Taxation: Value Added tax (VAT) Graphical representation Solutions to financial problems	<b>Teacher A</b> Equation of a straight line  Perimeter. Circumference and area  Similarity and pythagorean theorem  Surface area and similarity  <b>Teacher B</b> Fermi Estimation  The Normal Distribution	<b>Teacher A</b> Correlation and regression  Limits of accuracy  <b>Teacher B</b> Probability and estimation	Revision	No Lesson - Course completed
<b>Skills</b>	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	
<b>Links</b>  Referring to <a href="#">AQA Specification</a>	<b>Teacher A</b> D1.1 D1.2 D1.3 D2.1 D2.2 D3.1 D3.2 D4.1  <b>Teacher B</b> F1.1 F1.2 F2.1	<b>Teacher A:</b> C3.2  <b>Teacher B:</b> F4.1 F3.1 F3.2 F5.1 F6.1 F7.1 F7.2 F7.3 F7.4 E1.2	<b>Teacher A:</b> Core content  <b>Teacher B:</b> E2.1 S1.1 S2.1 S3.1	<b>Teacher A:</b> S7.1 S7.1 S8.1 S8.2 S8.3 S9.1 S9.2 S9.3 S9.4 S9.5 S10.1 C1.1 F1.3	Analysis of preliminary material.  Targeted revision based of past paper results.	

	F2.3 F2.4 F2.5 E1.2 F6.1			<b>Teacher B:</b> S4.1 S4.2 S5.1 S6.1 C1		
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**Year 12 Further Mathematics (AQA - 7367 Course)**

<b>Topics</b>	<b>Teacher A:</b> Complex Numbers Loci in Complex Plane  <b>Teacher B:</b> Matrices Matrices Transformation  <b>Teacher C:</b> Work, Energy and Power	<b>Teacher A:</b> Roots of Polynomials Sigma Notation Standard Summation Formula Method of Differences  <b>Teacher B:</b> Graphs Networks Linear Programming  <b>Teacher C:</b> Dimensional Analysis Momentum and Collisions	<b>Teacher A:</b> Maclaurin Series Proof by Induction  <b>Teacher B:</b> Graphs and Inequalities  <b>Teacher C:</b> Momentum and Collisions Horizontal Circular Motion	<b>Teacher A:</b> Vectors Hyperbolic Functions  <b>Teacher B:</b> Binary Operations Network Flows  <b>Teacher C:</b> Work, Energy and Power 2 Momentum and Collisions 2	<b>Teacher A:</b> Further Calculus Polar Coordinates  <b>Teacher B:</b> Critical Path Analysis (activity networks) Critical Path Analysis (Gantt charts)  <b>Teacher C:</b> Momentum and Collisions 2 Revision	<b>Teacher A:</b> Preparation for summer examination. Flow Augmentation Simplex Algorithm  <b>Teacher B:</b> Game Theory for Zero Sum Games Game Theory (higher order games)  <b>Teacher C:</b> Circular Motion 1 (Horizontal circular motion in 3D)
<b>Skills</b>	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique
<b>Links</b>  Referring to <a href="#">AQA specification</a>	<b>Teacher A:</b> B1-B7  <b>Teacher B:</b> C1-C6  <b>Teacher C:</b> MC1-MC3, MC7	<b>Teacher A:</b> D1-D4  <b>Teacher B:</b> DA1 - DA6 DB1 - DB5 DD1 - DD2  <b>Teacher C:</b> MA1-MA2 MB1	<b>Teacher A:</b> D6, A1  <b>Teacher B:</b> D8 - D9 and D12 - D16  <b>Teacher C:</b> MB2-MB3 MD1-MD3	<b>Teacher A:</b> F1, F3, F4, F6 H1, H3, H4, H6  <b>Teacher B:</b> DG1 - DG5 DC1 - DC4  <b>Teacher C:</b> MC2-MC6 MB2	<b>Teacher A:</b> E2, E3 G1, G2  <b>Teacher B:</b> DE1 - DE4 and DE5 - DE6  <b>Teacher C:</b> MB4	<b>Teacher A:</b> DC2, DC5, DC6, DC7 DD3, DD4  <b>Teacher B:</b> DF1 - DF5 DF6  <b>Teacher C:</b> MD4-MD5

**Year 13 Further Mathematics (AQA - 7367 Course)**

<b>Topics</b>	<b>Teacher A:</b> De Moivre's Theorem Further Complex Numbers applied to	<b>Teacher A:</b> Further Hyperbolic Functions Further Calculus applied	<b>Teacher A:</b> Reduction Formula Arc Length & Area of surface of revolution	<b>Teacher A:</b> Further Vectors  <b>Teacher B:</b>	<b>Teacher A:</b> Revision  <b>Teacher B:</b>	<b>Teacher A:</b> Revision until exam.  <b>Teacher B:</b>
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	<p>trigonometry</p> <p><b>Teacher B:</b> Further Matrices Further transformations of the ellipse, hyperbola and parabola. Further Graphs and Inequalities</p> <p><b>Teacher C:</b> Circular Motion 2</p>	<p>to inverse trigonometric and inverse hyperbolic functions.</p> <p><b>Teacher B:</b> Maclaurin series and Limits Further Polar Coordinates</p> <p><b>Teacher C:</b> Centre of Masses</p>	<p><b>Teacher B:</b> Differential Equations Applications of Differential Equations.</p> <p><b>Teacher C:</b> Centre of Masses Moments and Couples</p>	<p>Applications of Differential Equations. Numerical Methods</p> <p><b>Teacher C:</b> Work, Energy and Power 2 (A Level Content)</p>	<p>Revision</p> <p><b>Teacher C:</b> Revision</p>	<p>Revision until exam.</p> <p><b>Teacher C</b> Revision until exam:</p>
<b>Skills</b>	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique	Fluency, Problem Solving, Reasoning, Exam Technique
Links Referring to <a href="#">AQA specification</a>	<p><b>Teacher A:</b> B8-B11</p> <p><b>Teacher B:</b> C5-C11 D10, D11. D12, D15, D16</p> <p><b>Teacher C</b> MD5-MD6</p>	<p><b>Teacher A:</b> H1, H2, H3, H5, H6 E4-E6</p> <p><b>Teacher B:</b> D5 - D7 G3</p> <p><b>Teacher C</b> ME1-ME4</p>	<p><b>Teacher A:</b> E7, E8</p> <p><b>Teacher B:</b> I1 - I6 I7 - I11</p> <p><b>Teacher C</b> ME5 - ME6</p>	<p><b>Teacher A:</b> F2, F3, F5, F6</p> <p><b>Teacher B:</b> I7 - I11 J1 - J3</p> <p><b>Teacher C</b> MC1-MC7</p>	<p><b>Teacher A:</b> All Content</p> <p><b>Teacher B:</b> All Content</p> <p><b>Teacher C</b> All Content</p>	<p><b>Teacher A:</b> All Content</p> <p><b>Teacher B:</b> All Content</p> <p><b>Teacher C</b> All Content</p>