PROGRAMME OF STUDY MATHS 2022-23

KS3 Y7

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS3 Y7: Lines & angles | Algebraic thinking | Place value & Proportion | Application of Number | Directed number & Fractional thinking | Reasoning with number

WR Scheme	Constructing, measuring and using geometric notation	Developing geometric reasoning	Sequences	Understand and use algebraic notation	Equality and equivalence	Place value ordering integers and decimals	Fraction, decimal and percentage equivalence	Solving problems with addition and subtraction	Solving problems with multiplication and division	Fractions & percentages of amounts	Operations and equations with directed number	Addition and subtraction of fractions	Developing number sense	Sets and probability	Prime numbers and proof

	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progres s test	Progress test	Progress test	Progress test	Progress test	Progress test

Autumn Term Assessment	Spring Term Assessment	Summer Term Assessment
Maths Progress Test+CAT test to baseline		Maths Progress Test

KS3 Y8

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS3 Y8: Proportional reasoning | Representations | Algebraic techniques | Developing Number | Developing geometry | Reasoning with data

Ratio & scale	Multiplicative change	Multiplying and dividing fractions	Working in the Cartesian plane	Representing data	Tables & Probability	Brackets, equations & inequalities	Sequences	Indices	Fractions & percentages	Standard index form	Number sense	Angles in parallel lines & polygons	Area of trapezia & circles	Line symmetry & reflection	The data handling cycle	Measures of location

Progress test	Progress test	Progress test	Progress test	Progress test	Progres test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test

Autumn Term Assessment	Spring Term Assessment	Summer Term Assessment
		Maths Progress Test

KS4 Y9 Foundation

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS4 Y9 Foundation: 1 Number | 2 Algebra | 3 Graphs, tables and charts | 4 Fractions and percentages | 5 Equations, inequalities an | 6 Angles | 7 Averages and range | 8 Perimeter, area and volume

1 Number	2 Algebra	3 Graphs, tables and charts	4 Fractions and percentages	5 Equations, inequalities and	6 Angles	7 Averages and range	8 Perimeter, area and volume
1.1 Calculations 1.2 Decimal numbers 1.3 Place value 1.4 Factors and multiples 1.5 Squares, cubes and roots 1.6 Index notation 1.7 Prime factors	2.1 Algebraic expressions 2.2 Simplifying expressions 2.3 Substitution 2.4 Formulae 2.5 Expanding brackets 2.6 Factorising 2.7 Using expressions and formulae	3.1 Frequency tables 3.2 Two-way tables 3.3 Representing data 3.4 Time series 3.5 Stem and leaf diagrams 3.6 Pie charts 3.7 Scatter graphs 3.8 Line of best fit	4.1 Working with fractions 4.2 Operations with fractions 4.3 Multiplying fractions 4.4 Dividing fractions 4.5 Fractions and decimals 4.6 Fractions and percentages 4.7 Calculating percentages 1 4.8 Calculating percentages 2	5.1 Solving equations 1 5.2 Solving equations 2 5.3 Solving equations with brackets 5.4 Introducing inequalities 5.5 More inequalities 5.6 Using formulae 5.7 Generating sequences 5.8 Using the nth term of a sequence	6.1 Properties of shapes 6.2 Angles in parallel lines 6.3 Angles in triangles 6.4 Exterior and interior angles 6.5 More exterior and interior angles 6.6 Geometrical problems	7.1 Mean and range 7.2 Mode, median and range 7.3 Types of average 7.4 Estimating the mean 7.5 Sampling	8.1 Rectangles, parallelograms and triangles 8.2 Trapezia and changing units 8.3 Area of compound shapes 8.4 Surface area of 3D solids 8.5 Volume of prisms 8.6 More volume and surface area

Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test

Synoptic Assessment

KS4 Y9 Foundation Legacy

KS4 Y9 Foundation Legacy	Integers and place value	Indices, powers and roots; factors, multiples and primes	Algebra: the basics; expanding and factorising single brackets; expressions and substitution into formulae	Tables; charts and graphs; pie charts; scatter graphs	Fractions; fractions, decimals and percentages; percentages	Equations and inequalities, Sequences
	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test
						Synoptic test.

KS4 Y9 Higher

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS4 Y9 Higher

- 1 Number
- 2 Algebra
- 3 Interpreting and represen
- 4 Fractions, ratio and perce
- 5 Angles and trigonometry
- 6 Graphs
- 7 Area and volume
- 8 Transformations and cons

1 Number
1.1 Number problems and reasoning
1.2 Place value and estimating
1.3 HCF and LCM
1.4 Calculating with powers (indices)
1.5 Zero, negative and fractional indices
1.6 Powers of 10 and standard form
1.7 Surds

2 Algebra
2.1 Algebraic indices
2.2 Expanding and factorising
2.3 Equations
2.4 Formulae
2.5 Linear sequences
2.6 Non-linear sequences
2.7 More expanding and factorising

3 Interpreting and represen
3.1 Statistical diagrams 1
3.2 Time series
3.3 Scatter graphs
3.4 Line of best fit
3.5 Averages and range
3.6 Statistical diagrams 2

4 Fractions, ratio and perce
4.1 Fractions
4.2 Ratios
4.3 Ratio and proportion
4.4 Percentages
4.5 Fractions, decimals and percentages

5 Angles and trigonometry
5.1 Angle properties of triangles and quadrilaterals
5.2 Interior angles of a polygon
5.3 Exterior angles of a polygon
5.4 Pythagoras' theorem 1
5.5 Pythagoras' theorem 2
5.6 Trigonometry 1
5.7 Trigonometry 2

6 Graphs
6.1 Linear graphs
6.2 More linear graphs
6.3 Graphing rates of change
6.4 Real-life graphs
6.5 Line segments
6.6 Quadratic graphs
6.7 Cubic and reciprocal graphs
6.8 More graphs

7 Area and volume
7.1 Perimeter and area
7.2 Units and accuracy
7.3 Prisms
7.4 Circles
7.5 Sectors of circles
7.6 Cylinders and spheres
7.7 Pyramids and cones

8 Transformations and cons
8.1 3D solids
8.2 Reflection and rotation
8.3 Enlargement
8.4 Transformations and combinations of different transformations
8.5 Scale drawings and bearings
8.6 Constructions 1
8.7 Constructions 2
8.8 Loci

Progress test (×8)

Synoptic Assessment

KS4 Y9 Higher Legacy

Integers and place value Place value, combinations, estimating, HCF and LCM, indices, powers of 10 and standard form, surds

Algebraic indices, expanding and factorising, equations, formulae, linear and non-linear sequences

Averages and range, collecting data, representing data

Fractions, percentages, ratio and proportion

Polygons, angles and parallel lines

Pythagoras' Theorem and trigonometry

Progress test (×6)

Synoptic test.

KS4 Y10 Foundation

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS4 Y10 Foundation

- 9 Graphs
- 10 Transformations
- 11 Ratio and proportion
- 12 Right-angled triangles
- 13 Probability
- 14 Multiplicative reasoning
- 15 Constructions, loci and b
- 16 Quadratic equations and
- 17 Perimeter, area and volu

9 Graphs
9.1 Coordinates
9.2 Linear graphs
9.3 Gradient
9.4 y = mx + c
9.5 Real-life graphs
9.6 Distance-time graphs
9.7 More real-life graphs

10 Transformations
10.1 Translation
10.2 Reflection
10.3 Rotation
10.4 Enlargement
10.5 Describing enlargements
10.6 Combining transformations

11 Ratio and proportion
11.1 Writing ratios
11.2 Using ratios 1
11.3 Ratios and measures
11.4 Using ratios 2
11.5 Comparing using ratios
11.6 Using proportion
11.7 Proportion and graphs
11.8 Proportion problems

12 Right-angled triangles
12.1 Pythagoras' theorem 1
12.2 Pythagoras' theorem 2
12.3 Trigonometry: the sine ratio 1
12.4 Trigonometry: the sine ratio 2
12.5 Trigonometry: the cosine ratio
12.6 Trigonometry: the tangent ratio
12.7 Finding lengths and angles using trigonometry

13 Probability
13.1 Calculating probability
13.2 Two events
13.3 Experimental probability
13.4 Venn diagrams
13.5 Tree diagrams
13.6 More tree diagrams

14 Multiplicative reasoning
14.1 Percentages
14.2 Growth and decay
14.3 Compound measures
14.4 Distance, speed and time
14.5 Direct and inverse proportion

15 Constructions, loci and b
15.1 3D solids
15.2 Plans and elevations
15.3 Accurate drawings 1
15.4 Scale drawings and maps
15.5 Accurate drawings 2
15.6 Constructions
15.7 Loci and regions
15.8 Bearings

16 Quadratic equations and
16.1 Expanding double brackets
16.2 Plotting quadratic graphs
16.3 Using quadratic graphs
16.4 Factorising quadratic expressions
16.5 Solving quadratic equations algebraically

17 Perimeter, area and volu
17.1 Circumference of a circle 1
17.2 Circumference of a circle 2
17.3 Area of a circle
17.4 Semicircles and sectors
17.5 Composite 2D shapes and cylinders
17.6 Pyramids and cones
17.7 Spheres and composite solids

Progress test (×9)

Synoptic Assessment

KS4 Y10 Foundation Legacy

Properties of shapes, parallel lines and angle facts; interior and exterior angles of polygons

Statistics and sampling; the averages

Perimeter and area; 3D forms and volume

Real-life graphs; straight-line graphs

Transformations

Ratio; proportion

Right-angled triangles: Pythagoras and trigonometry

Probability

Multiplicative reasoning

Progress test (×9)

Synoptic test.

KS4 Y10 Higher

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS4 Y10 Higher

- 9 Equations and inequalities
- 10 Probability
- 11 Multiplicative reasoning
- 12 Similarity and congruence
- 13 More trigonometry
- 14 Further statistics
- 15 Equations and graphs
- 16 Circle theorems
- 17 More algebra

9.	10.	11.	12.	13.	14.	15.	16.	17.
9.1 Solving linear inequalities 9.2 Solving quadratic equations 1 9.3 Solving quadratic equations 2 9.4 Completing the square 9.5 Solving simple simultaneous equations 9.6 More simultaneous equations 9.7 Solving linear and quadratic simultaneous equations	10.1 Combined events 10.2 Mutually exclusive events 10.3 Experimental probability 10.4 Independent events and tree diagrams 10.5 Conditional probability 10.6 Venn diagrams and set notation	11.1 Growth and decay 11.2 Compound measures 11.3 More compound measures 11.4 Ratio and proportion	12.1 Congruence 12.2 Geometric proof and congruence 12.3 Similarity 12.4 More similarity 12.5 Similarity in 3D solids	13.1 Accuracy 13.2 Graph of the sine function 13.3 Graph of the cosine function 13.4 Graph of the tangent function 13.5 Calculating areas and the sine rule 13.6 The cosine rule and 2D trigonometric problems 13.7 Solving problems in 3D 13.8 Transforming trigonometric graphs 1 13.9 Transforming trigonometric graphs 2	14.1 Sampling 14.2 Cumulative frequency 14.3 Box plots 14.4 Drawing histograms 14.5 Interpreting histograms 14.6 Comparing and describing distributions	15.1 Solving simultaneous equations graphically 15.2 Representing inequalities graphically 15.3 Quadratic equations 15.4 Using quadratic graphs 15.5 Cubic equations 15.6 Using iteration to solve equations	16.1 Radii and chords 16.2 Tangents 16.3 Angles in circles 1 16.4 Angles in circles 2 16.5 Applying circle theorems	17.1 Rearranging formulae 17.2 Algebraic fractions 17.3 Simplifying algebraic fractions 17.4 More algebraic fractions 17.5 Proof 17.6 Surds 17.7 Solving algebraic fraction equations 17.8 Functions
Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test

Synoptic Assessment

KS4 Y10 Higher Legacy

Graphs: the basics and real-life graphs; linear graphs and coordinate geometry	Quadratic, cubic and other graphs	Perimeter, area and volume, prisms, circles, cylinders/spheres/cones, accuracy and bounds	Transformations; Constructions: triangles, nets, plan and elevation, loci, scale drawings and bearings	Algebra: Solving quadratic equations and inequalities, solving simultaneous equations algebraically	Probability	Multiplicative reasoning: growth and decay, compound measures, ratio and proportion	Similarity and congruence in 2D and 3D	Further trigonometry, trigonometry/Pythagoras' in 3D, trig graphs, transforming graphs, further accuracy	Statistics and sampling, cumulative frequency and histograms
Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test	Progress test

Synoptic test.

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS4 Y11 Foundation

18 Fractions, indices and st... | 19 Congruence, similarity a... | 20 More algebra

18.1 Multiplying and dividing fractions 18.2 The laws of indices 18.3 Writing large numbers in standard form 18.4 Writing small numbers in standard form 18.5 Calculating with standard form	19.1 Similarity and enlargement 19.2 More similarity 19.3 Using similarity 19.4 Congruence 1 19.5 Congruence 2 19.6 Vectors 1 19.7 Vectors 2	20.1 Graphs of cubic and reciprocal functions 20.2 Non-linear graphs 20.3 Solving simultaneous equations graphically 20.4 Solving simultaneous equations algebraically 20.5 Rearranging formulae 20.6 Proof	Revision/Mocks etc	Revision/Mocks etc	Revision/Mocks etc	Revision/Mocks etc
Progress test	Progress test	Progress test				
1st set of Past Papers		.December Mock		2nd Mock		

KS4 Y11 Foundation Legacy

Plans and elevations; construction, loci and bearings	Quadratic equations; expanding, factorising and graphing	Circles, cylinders, cones and spheres	Fractions and reciprocals; indices and standard form.	Similarity and congruence in 2D; vectors.	Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations.	Revision/Mocks etc
Progress test	Progress test		Progress test	Progress test	Progress test	
!st set of Past Papers		.December Mock			2nd Mock	

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS4 Y11 Higher

18 Vectors and geometric proof	19 Proportion and graphs				
18.1 Vectors and vector notation 18.2 Vector arithmetic 18.3 More vector arithmetic 18.4 Parallel vectors and collinear points 18.5 Solving geometric problems	19.1 Direct proportion 19.2 More direct proportion 19.3 Inverse proportion 19.4 Exponential functions 19.5 Non-linear graphs 19.6 Translating graphs of functions 19.7 Reflecting graphs of functions	Revision/Mocks etc	Revision/Mocks etc	Revision/Mocks etc	Revision/Mocks etc
Progress test	Progress test				
1st set of Past Papers		.December Mock		2nd Mock	

KS4 Y11 Higher Legacy

Quadratics, expanding cubics, sketching graphs, graphs of circles, cubes and quadratics	Circle theorems and circle geometry	Rearranging formulae, algebraic fractions, equations with algebraic fractions, rationalising surds, proof	Vectors and geometric proof	Direct and inverse proportion, exponential functions, non-linear graphs, transforming graphs	Revision/Mocks etc
Progress test	Progress test	Progress test	Progress test	Progress test	
!st set of Past Papers		.December Mock		2nd Mock	

	Autumn												Spring												Summer											
Week	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12

KS5 Year 12

Pure — Teacher A

Surds and indices	Trigonometry	Graphs and transformations	Coordinate geometry	Exponentials and logarithms	The Binomial Expansion	Kinematics	Forces and Newton's Laws	Variable Acceleration	Revision	Feedback on assessment	Y13 Trigonometry topics

Mechanics / Statistics — Teacher B

Problem solving	Quadratic functions	Equations and inequalities	Differentiation	Integration	Polynomials	Vectors	Collecting and interpreting data	Probability	Binomial Distribution	Hypothesis Testing	Feedback on assessment	Y13 Differentiation topics

Progress test | Progress test | Progress test | Progress test | End of year assessment

Revision and assessment weeks

KS5 Year 13

Pure — Teacher A

Sequences and series	Functions	Differentiation	Further differentiation	Integration	Differential equations	Kinematics	Forces and motion	Moments of forces	Projectiles	A model for friction

Mechanics / Statistics — Teacher B

Algebra	Proof	Vectors	Numerical methods	Trigonometry	Parametric equations	Mock feedback	Probability	Statistical distributions	Statistical hypothesis testing

Progress test | Progress test | Y13 Mocks | Statistics & Mechanics Mock

Revision

KS5 Year 12 FM

Pure — Teacher A

Matrices and Transformations	Roots of Polynomials	Vectors and 3D Scpace	Sequences and Series	Impulse Momentum	Work, Energy and Power	Elastic Strings and Springs	Circular Motion	Dimentional Analysis	Further Calculus	Feedback on assessment	Y13 Vectors and Matrices topics

Mechanics / Discrete — Teacher B

Complex Numbers	Conic Sections	Complex Numbers and Geometry	Polar Coordinates	Hyperbolics	Rational Functions	Graphs and Networks	Further Networks	Critical Path Analysis	Linear Programming	Game Theory	Binary Operations	Feedback on assessment	Y13 Complex Numbers topics

Progress test | Progress test | Progress test | Progress test | End of year assessment

Revision and assessment weeks

KS5 Year 13 FM

Teacher A | Teacher A | Teacher A | Teacher A

Pure	Series and Limits	Vectors	Further Vectors	Matrices	Further Matrices	Numerical Methods	Mock feedback	Polar Coordinates	Working in 2D	Moments and Forces	Centre of Mass	Further Circular Motion	Revision	
Mechanics	Teacher B			Teacher B		Teacher B			Teacher B					
Discrete	Complex Numbers	Hyperbolic Functions	Further Algebra and Graphs	Further Integration	First Order Differential Equations	Conics	Second Order Differential Equations	Mock feedback	Further Calculus	Further Critical Path Analysis	Further Graphs and Networks	Further Linear Programming	Group Theory	
	Progress test			Progress test		Y13 Mocks			Statistics & Mechanics Mock					