Long Term Curriculum Plan: Mathematics

Department Vision

"To engage and inspire students in mathematics, promoting excellent progress and attainment.
We will provide students with the understanding and tools to solve problems, and apply these skills in other subjects.
We will ensure that maths is never a barrier to student' success in life, either by grades or skills"

Curriculum Intent

Year 7 is for taking skills and knowledge learnt at Primary school, and consolidating them so that all students are level.

In Year 8 we continue develop the foundations of the mathematical skills which will be relied upon in GCSE mathematics.

Year 9 is the beginning of the GCSE, for which all students will take Pearson Edexcel Higher GCSE. Content from Y7 and Y8 is revisited and built upon.

In Year 10, we continue to develop mathematical skills, introduce some new topics, and take to their logical conclusion others.

We finish teaching the GCSE in Year 11. We then use mock and in-class exams to identify weaknesses, and develop individualised Schemes of Learning for each class to improve these weaknesses.

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5 year roadmap	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 7	Working with number Estimating Averages Summarising data Indices Factors and multiples	Negative numbers Intro to Algebra Formulae Fractions and mixed numbers	Working with percentages Solving equations Probability	Properties of 2D shapes Angles, and parallel lines Statistical diagrams Ratio	Coordinates Linear graphs Circles	**End of Year Assessment** Expanding and factorising Equations with brackets Units Standard form
Year 8	Properties of polygons Tessellation Harder linear equations Rearranging formulae Sequences	Introduction to 3D shapes Transformations Constructions Two-way tables Grouped data Real-life graphs	Working with quadratic expressions 3D shapes Pythagoras' theorem	Proportion formulae Compound units Linear inequalities Error bounds	Maps and bearings More percentages Standard form	**End of Year Assessment** Linear simultaneous equations Indices
Year 9 Important End of Topic test completed at the end of each unit of work	**Number** (Counting strategies, Estimating, HCF/LCM, Indices, Standard form, Surds) **Algebra** (Indices, expanding, factorising, equations, formulae, sequences)	**Algebra** (complete from term 1) **Interpreting and representing data** (data types, displaying data, time-series, scatter graphs) **Fractions, ratio & percentages** (starting for term 2)	**Fractions, ratio & percentages** (Fractions, ratio, proportion, Percentages) **Angles & trigonometry** (Triangles and quadrilaterals, polygons, Pythagoras' theorem, right-angle trigonometry, exact values)	**Angles & trigonometry** (complete from term 1) **Graphs** (Linear graphs, rates of change, linear segments, quadratic and cubic graphs, reciprocals, other graphs)	**Area and volume** (Perimeter, area, prisms, circles, sectors, cylinders, spheres, pyramids, cones)	**End of Year Assessment** **Transformations and constructions** (3D solids, transformations, scale drawings, bearings, constructions, loci)
Year 10 Important End of Topic test completed at the end of each unit of work	**Equations & inequalities** (linear equations, quadratic equations, completing the square, simultaneous equations) **Probability** (Combined events, mutually exclusive, independent/dependent	**Probability** (complete from term 1) **Multiplicative reasoning** (growth and decay, compound measures, ratio and proportion) **Similarity & congruence** (Congruence, proof, similarity, 3D similarity)	**Similarity & congruence** (complete from term 2) **More trigonometry** (Accuracy, Trig graphs, Sine/Cosine rules, 3D problems, transforming graphs)	**Further statistics** (Sampling, cumulative frequency, box plots, histograms, comparing data) **Revision for Mock Exams**	**Mock Exams** **Equations & graphs** (Graphical simultaneous equations, graphical inequalities, quadratic and cubic equations, iteration)	**Equations & graphs** (complete from term 5) **Circle theorems** (Radii, chords, angles, tangents)
Year 11 End of Topic tests and mock exams sat in class	**More Algebra** Algebraic Fractions, surds, proof, functions **Vectors** Vectors, vector arithmetic, geometry	**Proportion and graphs** Proportion, exponential and non-linear graphs, transforming graphs **Mock exams**	**Individualised SoL based upon mock results** In class mocks	**Individualised SoL based upon mock results** In class mocks		

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Sixth form roadmap	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
YEAR 12 Important End of Topic tests after each chapter	Pure 1 Ch 2 – Quadratics Pure 1 Ch 4 – Graphs and transformations Pure 1 Ch 9 – Trigonometric ratios	Pure 1 Ch 9 – Trigonometric ratios Pure 1 Ch 10 – Trigonometric identities and equations Pure 1 Ch 11 – Vectors	Mech Ch 8 – Modelling in mechanics Mech Ch 9 – Constant acceleration Mech Ch 10 – Forces and motion	Pure 1 Ch 12 – Differentiation	**Mock exams** Pure 1 Ch 13 – Integration Mech Ch 11 – Variable acceleration	Pure 2 Ch 5 – Radians Pure 2 Ch 6 –Trigonometric functions
	Pure 1 Ch 1 – Algebraic manipulation Pure 1 Ch 3 – Equations and inequalities Pure 1 Ch 5 – Straight line graphs Pure 1 Ch 6 – Circles	Stats Ch 1 – Data collection Stats Ch 2 –Measures of location and spread Stats Ch 3 – Representations of data	Stats Ch 4 – Correlation Stats Ch 5 – Probability Pure 1 Ch 7 – Algebraic methods	Pure 1 Ch 8 – Binomial expansion Stats Ch 6 – Statistical distributions Stats Ch 7 – Hypothesis testing	**Mock exams** Pure 1 Ch 14 – Exponentials and logarithms	Pure 2 Ch 1 – Algebraic methods Pure 2 Ch 4 – Binomial expansion
YEAR 13 Important End of Topic tests after each chapter	Pure 2 Ch 7 – Trigonometry and modelling Pure 2 Ch 8 –Parametric equations	Mech Ch 4 – Moments Mech Ch 5 – Forces and friction Mech Ch 6 – Projectiles Pure 2 Ch 9 – Differentiation	**Mocks** Pure 2 Ch 9 –Differentiation Mech Ch 7 – Applications of forces	Mech Ch 8 – Further kinematics **Revision**	**Revision**	[redacted]
	Pure 2 Ch 2 – Functions and graphs Pure 2 Ch 3 – Sequences and series	Stats Ch 1 – Regression, correlation and hypothesis testing Stats Ch 2 – Conditional probability Stats Ch 3 –The normal distribution	**Mocks** Pure 2 Ch 10 – Numerical methods Pure 2 Ch 11 – Integration	Pure 2 Ch 11 – Integration Pure 2 Ch 12 – Vectors **Revision**	**Revision**	