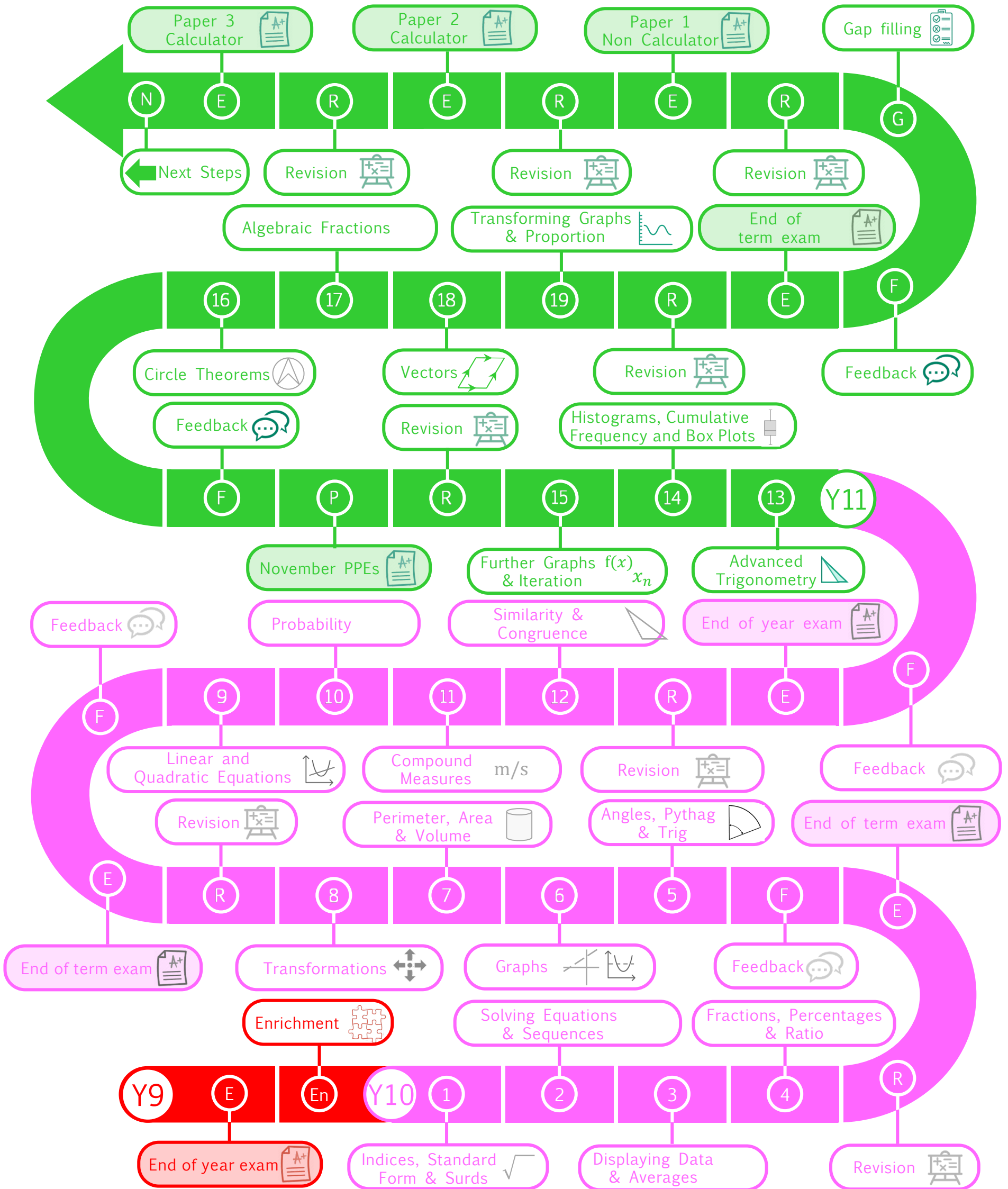


GCSE Higher Mathematics Intent Overview



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Yr 10	Unit	Students will learn to:	
Autumn 1	Units 1 & 2	Unit 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	Unit 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
Autumn 2	Units 3 & 4	Unit 3 – Graphs, Tables & Charts 3.1 Statistical Diagrams 1 3.2 Time series 3.3 Scattergraphs 3.4 Line of best fit 3.5 Averages and range 3.6 Statistical diagrams 2	Unit 4 – Fractions & Percentages 4.1 Fractions 4.2 Ratios 4.3 Ratios and proportions 4.4 Percentages 4.5 Fractions, decimals and percentages
Spring 1	Units 5 & 6	Unit 5 – Polygons, Angles, Right Angled Triangles 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	Unit 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
Spring 2	Units 7 & 8	Unit 7 – Perimeter, Area, 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	Topic 8 – Transformations and Constructions 8.1 3D Solids 8.2 Reflection and rotation 8.3 Enlargement 8.4 Combining transformations 8.5 Bearings and scale drawings 8.6 Constructions 1 8.7 Constructions 2 8.8 Loci
Summer 1	Units 9 & 10	Unit 9 – Quadratic equations and inequalities 9.1 Solving quadratic equations 1 9.2 Solving quadratic equations 1 9.3 Completing the square 9.4 Solve simple simultaneous equations 9.5 More simultaneous equations 9.6 Solving linear and quadratic simultaneous equations 9.7 Solving linear inequalities	Unit 10 – Probability 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
Summer 2	Units 11 & 12	Unit 11 – Multiplicative Reasoning 11.1 Growth and decay 11.2 Compound measures 11.3 More compound measures 11.4 Ratio and proportion	Unit 12 – Similarity And Congruence 12.1 Congruence 12.2 Geometric proof and congruence 12.3 Similarity 12.4 More similarity 12.5 Similarity in 3D solids

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Yr 11	Unit	Students will learn to:	
Autumn 1	Units 13 & 14	Unit 13 – Further Graphs 13.1 Accuracy 13.2 Graph of the sine function 13.3 Graph of the cosine function 13.4 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	Unit 14 – Data 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 populations
Autumn 2	Units 15 & 16	Unit 15 – Quadratics, Cubics and Circles 15.1 Solving simultaneous equations graphically 15.2 Representing inequalities graphically 15.3 Graphs of quadratic functions 15.4 Solving quadratic equations graphically 15.5 Graphs of cubic functions	Unit 16 – Circle Theorems 16.1 Radii and chords 16.2 Tangents 16.3 Angles in circles 1 16.4 Angles in circles 2 16.5 Applying in circle theorems
Spring 1	Units 17 & 18	Unit 17 – Further Algebra 17.1 Rearranging formulae 17.2 Algebraic fractions 17.3 Simplifying algebraic fractions 17.4 More algebraic fractions 17.5 Surds 17.6 Solving algebraic fraction equations 17.7 Functions 17.8 Proof	Unit 18 – Vectors and Geometric Proof 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
Spring 2	Units 19 & 20	Unit 19 – Further Graphs and Proportion 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 and stretching graphs of functions	
Summer 1	Revision & Exam Preparation		