

Hall Park Academy: Maths

5 Year Scheme of Learning

At KS3 (years 7 to 9) the majority of our students follow the core scheme of work. This is an ambitious scheme of work which allows for every student to have the opportunity to go on to the higher tier GCSE at the end of year 9. Some students will follow the higher scheme of work at KS3. This includes earlier exposure to a few key challenging concepts that will set students up to have the best chance of achieving a grade 9 in their GCSE. A small number of students in years 8 and 9 will still be following the foundation scheme of work which helps ensure key foundational concepts are truly embedded with some of our least confident learners.

Below you will find a small break down of what students will be covering over the course of their time with us.

Year 7:

Year 7 Core: Breakdown of the year			
Autumn	Unit 1	Number	Place value, formal arithmetic, types of number and negative numbers.
	Unit 2	Algebra	Function machines and simplifying expressions.
	Unit 3	Probability and data	Averages and interpreting charts.
Spring	Unit 4	Number	Decimals - place value, decimals – arithmetic and decimals – rounding.
	Unit 5	Shape and measure	Converting between units, perimeter, simple areas.
	Unit 6	Number	Simplifying fractions, equivalent fractions, arithmetic with fractions and converting with fractions.
	Unit 7	Number	Fractions and percentages of an amount.
	Unit 8	Probability and data	Simple probabilities of events happening and not happening.
Summer	Unit 9	Number	Proportion problems, sharing with ratios.
	Unit 10	Shape and measure	Basic angle facts, angle notation and key characteristics of quadrilaterals.
	Unit 11	Algebra	Sequences, coordinates and midpoints.
	Unit 12	Shape and measure	Transformations of shapes.

Year 7 Higher: Breakdown of the year			
Autumn	Unit 1	Number	Powers and roots, formal arithmetic, types of number and negative numbers.
	Unit 2	Algebra	Expanding and factorising, substitution and forming expressions.
	Unit 3	Probability and data	Averages, interpreting charts and comparing data.
Spring	Unit 4	Number	Simplifying and comparing fractions, arithmetic with fractions and mixed numbers and fractions of an amount.
	Unit 5	Shape and measure	Angle notation, basic angle facts and angles around parallel lines.
	Unit 6	Number	Decimals: arithmetic, rounding and place value.
Summer	Unit 7	Algebra	Equations.
	Unit 8	Number	Ratio and proportion.
	Unit 9	Shape and measure	Area and perimeter of 2d shapes, surface area and volume.
	Unit 10	Algebra	Sequences and coordinates.

Year 8:

Legacy

Year 8 Foundation: Breakdown of the year			
Autumn	Unit 1	Number	Negative numbers, ratio and proportion.
	Unit 2	Algebra	Simplifying expressions and function machines.
	Unit 3	Shape and measure	Properties of 3D shapes, surface area and volume.
Spring	Unit 4	Probability and data	Bar charts and pie charts.
	Unit 5	Number	Decimals
	Unit 6	Shape and measure	Angles.
Summer	Unit 7	Number	Types of number and prime factor decomposition
	Unit 8	Algebra	Sequences and Nth term
	Unit 9	Number	Fractions of an amount, arithmetic with fractions and percentages.
	Unit 10	Probability and data	Probability

Year 8 Core: Breakdown of the year			
Autumn	Unit 1	Number	Decimals and negative numbers.
	Unit 2	Number	Prime factor decomposition
	Unit 3	Algebra	Substitution, expanding and factorising and solving simple equations.
Spring	Unit 4	Shape and measure	Area and perimeter of 2D shapes, volume and surface area
	Unit 5	Number	Proportion and ratio problems with decimals.
	Unit 6	Probability and data	Pie charts, averages from tables and comparing sets of data.
	Unit 7	Algebra	Conversion graphs and real life graphs.
Summer	Unit 8	Number	Mixed numbers and reciprocals
	Unit 9	Shape and measure	Angles around parallel lines and angles within polygons.
	Unit 10	Algebra	Linear graphs, gradients and y intercepts.
	Unit 11	Number	FDP equivalence, recurring decimals and percentage increases and decreases

Year 8 Higher: Breakdown of the year			
Autumn	Unit 1	Number	Prime factor decomposition and laws of indices.
	Unit 2	Algebra	Expanding and factorising using laws of indices.
	Unit 3	Shape and measure	Circles, pi, Pythagoras and cylinders.
Spring	Unit 4	Algebra	Graphs of proportion and real life graphs.
	Unit 5	Shape and measure	Transformations of shapes.
	Unit 6	Number	Recurring decimals, percentage increases and decreases and decimal multipliers.
	Unit 7	Probability and data	Probabilities of events, probabilities from charts, Venn diagrams and simple tree diagrams.
Summer	Unit 8	Shape and measure	Scales, bearings, similarity and constructing triangles.
	Unit 9	Algebra	Linear graphs, gradient, y-intercept and plotting simple curves.
	Unit 10	Shape and measure	Constructions and simple loci.

Year 9:

Legacy

Year 9 Foundation: Breakdown of the year			
Autumn	Unit 1	Number	Negative numbers, decimals and prime factor decomposition.
	Unit 2	Algebra	Simplifying expressions, nth term and solving equations.
Spring	Unit 3	Probability and data	Two way tables, scatter graphs, pie charts, averages and frequency tables.
	Unit 4	Number	FDP, recurring decimals, arithmetic with fractions and percentage increases/decreases.
	Unit 5	Shape and measure	Angles in parallel lines, angles in polygons and Pythagoras.
	Unit 6	Shape and measure	Scales and maps and construction bisectors of lines and angles.
Summer	Unit 7	Algebra	Real life graphs, midpoints, gradients and y-intercepts.
	Unit 8	Number	Sharing with ratio, direct proportion and simple inverse proportion.
	Unit 9	Shape and measure	Areas of 2D shapes, perimeter of compound shapes and circles.
	Unit 10	Probability and data	Sample space diagrams, two way tables and tree diagrams.
	Unit 11	Shape and measure	Transformations of shapes.
	Unit 12	Probability and data	Scatter graphs, Frequency trees and other charts and tables.

Year 9 Core: Breakdown of the year			
Autumn	Unit 1	Number	Significant figures, laws of indices, negative indices and standard form.
	Unit 2	Algebra	Expanding and factorising, substitution and forming expressions.
	Unit 3	Probability and data	Samples and averages from a table.
Spring	Unit 4	Shape and measure	Enlargements.
	Unit 5	Shape and measure	Scales, constructions and basic loci.
	Unit 6	Algebra	Equations, inequalities and simultaneous equations.
	Unit 7	Shape and measure	Circles, pi, Pythagoras and cylinders.
	Unit 8	Algebra	Linear graphs, the general form, sequences and plotting curves.
Summer	Unit 9	Probability and data	Probabilities from charts and tables, Venn diagrams and combining probabilities.
	Unit 10	Shape and measure	Bearings, congruence and similarity.
	Unit 11	Shape and measure	Right angled trigonometry.

Year 9 Higher: Breakdown of the year			
Autumn	Unit 1	Number	Indices, standard form and surds.
	Unit 2	Algebra	Quadratic sequences and expressions
Spring	Unit 3	Probability and data	Samples, averages from tables, cumulative frequency, box plots and histograms.
	Unit 4	Number	Direct proportion.
	Unit 5	Shape and measure	Sectors.
	Unit 6	Algebra	Plotting curves.
	Unit 7	Shape and measure	Compound measures, converting between units of area and volume.
	Unit 8	Number	Bounds.
Summer	Unit 9	Algebra	Simultaneous equations, straight lines and inequalities on a set of axes.
	Unit 10	Shape and measure	Right angled trigonometry.
	Unit 11	Algebra	Basic algebraic proof.

Year 10:

Year 10 Foundation: Breakdown of the year			
Autumn	Unit 1	Number	Decimals, place value, indices and prime factors.
	Unit 2	Algebra	Simplifying expressions, substitution, expanding and factorising.
	Unit 3	Number	Fractions and percentages.
	Unit 4	Algebra	Equations, inequalities and sequences.
Spring	Unit 5	Shape and measure	Angles.
	Unit 6	Probability and data	Averages and frequency tables.
	Unit 7	Shape and measures	Perimeter, area, surface area, volume and converting between units of area and volume.
Summer	Unit 8	Algebra	Coordinates, linear graphs, gradients and real life graphs.
	Unit 9	Shape and measure	Transformations of shapes.
	Unit 10	Number	Ratio and proportion.
	Unit 11	Shape and measure	Pythagoras' theorem and right angled trigonometry.
	Unit 12	Probability and data	Venn diagrams, tree diagrams and frequency trees.

Year 10 Higher: Breakdown of the year			
Autumn	Unit 1	Number	Using prime factors, indices, standard form and surds
	Unit 2	Algebra	Expanding, factorising, solving and sequences
	Unit 3	Number	Fractions, ratios, proportion and percentages.
	Unit 4	Number	FDP, recurring decimals, arithmetic with fractions and percentage increases/decreases.
Spring	Unit 5	Shape and measure	Angles in polygons, right angled trigonometry and exact trig values.
	Unit 6	Algebra	Straight line graphs, real life graphs and graphs of curves.
	Unit 7	Shape and measures	Converting units of area and volume, circles, sectors, prisms, spheres and cones
Summer	Unit 8	Shape and measure	Transformations of shapes and points of invariance.
	Unit 9	Algebra	Solving quadratic equations, completing the square and finding turning points.
	Unit 10	Algebra	Simultaneous equations,
	Unit 11	Probability and data	Combining events, tree diagrams and Venn diagrams.
	Unit 12	Number	Compound measures, error intervals, and direct and inverse proportion.

Year 11:

Year 11 Foundation: Breakdown of the year			
Autumn	Unit 1	Shape and measure	Congruence, constructions, loci and bearings.
	Unit 2	Algebra	Quadratic equations and quadratic graphs.
	Unit 3	Shape and measure	Circles, sectors, cylinders, spheres, pyramids and cones.
Spring	Unit 4	Number	Indices and standard form.
	Unit 5	Shape and measure	Similarity and column vectors.
	Unit 6	Algebra	Simultaneous equations.
End of course: Revision cycle			

Year 11 Higher: Breakdown of the year		
Autumn	Unit 1	Shape and measure Congruence, similarity with area and volume and frustums.
	Unit 2	Shape and measure Non right angled trigonometry, 3d Pythagoras and 3d trigonometry.
	Unit 3	Probability and data Cumulative frequency, box plots, histograms and comparing data sets.
	Unit 4	Algebra Regions, quadratic inequalities and iteration.
Spring	Unit 5	Shape and measure Circle theorems
	Unit 6	Algebra Algebraic fractions, functions and algebraic proof.
	Unit 7	Shape and measures Vectors
Summer	Unit 8	Algebra Transformations of functions
	Unit 9	Shape and measure Geometric proof
End of course: Revision cycle.		