Year 9 Curriculum

Term	Topic	Details
1	Volume and surface area	Faces, edges and vertices, Nets of cubes, Nets of cuboids, Surface area of cuboids, Prisms, Nets of prisms, Surface area of prisms, Cylinders, Volume by counting cubes, Volume of cuboids, Volume of prisms, Volume and surface area
	Fractions, decimals and percentages	FDP conversions, Addition and subtraction, Multiplication, Division of fractions and mixed numbers
	Probability	Chance and probability, Theoretical probability, Comparing probabilities, Complementary events, Sample space diagrams, Probability of combined events, Probability tree diagrams
2	Algebra review	Algebraic conventions + Simplifying by collecting like terms, Expanding brackets + Factorising expressions, Substitution + Function machines, Rearranging and solving equations + Equations with two variables
	Solving linear simultaneous equations algebraically	Revisiting equations, Equivalent equations, Systems of equations, Adding and subtracting equations, Solving simultaneous equations by elimination, Solutions and intersections, Substitution of expressions, Solving simultaneous equations through substitution, Rearrange and substitute, Further substitution
	Linear graphs	Plotting linear graphs, gradient, y intercept, y=mx+c
	Angle review	Basic angles, Angles and lines, Angles and triangles, Angles and polygons
3	Pythagoras' Theorem	Tilted squares, The hypotenuse, Pythagoras' theorem, Hidden Pythagoras, Pythagoras in 3-D shapes, Pythagoras and the Cartesian plane
	Ratio review	Parts and wholes, Ratios and fractions, Scale factors and constants of proportionality, Unit ratios

	Similarity and enlargement	Congruence, Enlargement, Similarity, Linear scale factors, Centre of enlargement, Enlargement on a coordinate grid, Negative and fractional scale factors
4	Trigonometry	The unit circle - similar triangles, The unit circle – opposite and adjacent, Sine and cosine graphs, Trigonometry and generalising right angle triangles, Opposite and adjacent, Generalising with sin cos tan, Finding the angle, Generalising right-angled trigonometry
	Quadratic expressions and equations	Quadratic expressions, Substituting into a quadratic, Plotting quadratic graphs, Interpreting quadratic graphs:, Find y from x, Factorised form of quadratics, Expanding double brackets, Expanding 3 brackets, solving quadratic equations in factorised form
5	Percentages	Percentages, multipliers and % change
	Surds	Rational and irrational numbers, Exact and approximate values, Surds, Accuracy, Simplifying surds eg. $\sqrt{120} = 2\sqrt{30}$ AND $2\sqrt{3} + \sqrt{3} = 3\sqrt{3}$
	Indices	Indices, Roots, 0 and negative indices, Base 10, Multiplication of indices, Division of indices, To the power of… to the power of…, Piecing it all together
6	Standard form	Powers of ten, Comparing numbers, Writing standard form, Connecting standard form
	Constructions, congruence and loci	Circle loci, Equidistant points, Perpendicular bisectors, Bisecting angles, Constructing triangles, Congruence, Congruence proof, Constructing angles, plans & elevations, maps & scale drawings
	Investigations	Investigating patterns in maths

Each topic is tested through low stakes testing on a regular basis and students receive feedback and the opportunity to improve.

There are 3 main assessment points in the year.