Curriculum Overview: Mathematics

Key Stage 3 (Year 7 and 8)

Year 7		
Topics studied:		
Term (1)	Term (2)	Term (3)
• Sequences • Functions • Decimals – ordering and rounding • Negative numbers • Multiples, factors and primes • Patterns, squares and roots • Adding and subtracting • Length and perimeter • Area • Order of operations • Using a calculator • Fractions and decimals • Percentages • Working with data • Representing data • Chance and probability • Formulae • Functions and equations	• Angles • Lines, Shapes and coordinates • Surveys and experiments • Experiments and probability • Mental methods • Written methods for multiplying and dividing • Using a calculator (2) • Expressions and equations • Functions and mappings • Measures • Triangles • Nets and solid shapes • Representing 3-D shapes • Fractions and percentages of amounts • Ratio and proportion • Adding and subtracting fractions	• Functions and graphs • Using graphs • Reflection • Rotation • Translation • Comparing data • Using statistics • Fractions and integers • Direct Proportion • Deriving expressions and formulae • Using equations • Graphs of real-life situations • Symmetry and transformations • Solving geometrical problems.

Year 8		
Topics studied:		
Term (1)	Term (2)	Term (3)
• Integers • Powers and roots • Multiples, factors and primes • Generating sequences • Describing sequences • Angles • Lines, shapes and coordinates • Constructions (1) • Chance and probability • Probability • Experimental probability • Fractions and decimals • Calculations with fractions • Percentages • Mental methods (1)	• Simplifying expressions • Using equations • Formulae • Area • Volume • Plans and elevations • Units of measurement • Functions • Functions and mappings • Functions and graphs • Place value, ordering and rounding • Mental methods (2) • Written methods • Using calculator • Congruence • Reflection, rotation and translation • Enlargement	• Surveys • Analysing data (1) • Representing data • Interpreting data • Order of operations • Checking • Ratios • Graphs of real-life situations • Formulae and expressions • Using graphs • Scale drawing • Constructions (2) • Loci • Bearings • Collecting data • Analysing data (2) • Comparing distributions

Key Stage 4 (Years 9, 10 and 11)

Exam Link		
Maths GCSE | Edexcel GCSE Mathematics (2015) | Pearson qualifications		
Curriculum Information		
Foundation		
Year 9	Year 10	Year 11
• Integers and place value • Decimals • Indices, powers and roots • Factors, multiples and primes • Algebra: the basics • Expressions and substitution into formulae • Tables, charts and graphs • Pie charts • Scatter graphs • Fractions, decimals and percentages • Equations and inequalities • Sequences • Properties of shapes, parallel lines and angle facts • Interior and exterior angles and polygons	• Statistics, sampling and averages • Perimeter, area and volume • Real life graphs • Straight-line graphs • Transformations • Ratio • Proportion • Right-angles triangles: • Pythagoras and Trigonometry • Probability • Multiplicative reasoning • Plans and elevations • Constructions, loci and bearings	• Quadratic expressions: expanding and factorising • Quadratic equations and graphs • 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 • Simultaneous equations • Revision / exam preparation
Higher		
Year 9	Year 10	Year 11
• Calculations, checking and rounding • Indices, roots, reciprocals • Factors, multiples, primes • Standard form and surds • Algebra: the basics, setting up, rearranging and solving equations • Sequences • Averages and range • Representing and interpreting data and scatter graphs • Fractions and percentages • Ratio and proportion • Polygons, angles and parallel lines	• Perimeter, area and circles • 3D forms and volume, cylinders, cones and spheres • Accuracy and bounds • Transformations • Constructions, loci and bearings • Solving quadratic and simultaneous equations • Inequalities • Probability • Multiplicative reasoning • Similarity and congruence in 2D and 3D • Graphs of trigonometric	• Collecting data • Cumulative frequency, box plots and histograms • Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics • Circle theorems • Circle geometry • Changing the subject of formulae (more complex), algebraic fractions, solving equations arising

• Pythagoras' Theorem and trigonometry • Graphs: the basics and real-life graphs • Linear graphs and coordinate geometry • Quadratic, cubic and other graphs	functions • Further trigonometry	from algebraic fractions, rationalising surds, proof • Vectors and geometric proof • Reciprocal and exponential graphs; gradient and area under graphs • Direct and inverse proportion • Revision / exam preparation