



Curriculum plan – Maths

Year 9					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><u>Summary:</u> Sequences Understand and use algebraic notation</p> <p><u>Knowledge:</u> Sequences Next term Sequences in tabular forms Numerical linear sequences Term-to-term rule Inverse operations Diagrams and letters Values One and two-step functions Equality Fact families One-step linear equations</p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Place value and ordering integers and decimals Fraction, decimal and percentage equivalence</p> <p><u>Knowledge:</u> Place value Integers up to one billion Number lines Rounding Comparing numbers Ordering a list of integers Range Median Place value for decimals Compare and order numbers Rounding Representing numbers Converting between fractions and decimals Fractions</p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Solving problems with addition and subtraction Solving problems with multiplication and division</p> <p><u>Knowledge:</u> Properties of additional and subtraction Formal methods of addition and subtraction of: integers, decimals. Choosing methods Problem solving Times tables Frequency trees Bar charts and line graphs Properties Multiplication Division Solving problems</p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Operations and equations with directed number Addition and subtraction of fractions</p> <p><u>Knowledge:</u> Representation of directed numbers Directed numbers Evaluate algebraic expressions Solve two-step equations Order of operations Representations of fractions Convert between mixed numbers and fractions Fractions Equivalence</p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Constructing, measuring and using geometric notation Developing geometric reasoning</p> <p><u>Knowledge:</u> Letter and labelling conventions Line segments Angles Triangles Pie charts Use of the sum Solve angle problems</p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Developing number sense Sets and probability Prime numbers and proof</p> <p><u>Knowledge:</u> Mental addition and subtraction strategies for integers Mental multiplication and division strategies for integers Mental arithmetic strategies for decimals and fractions Simplify calculations</p> <p><u>Skills:</u> Worded questions Problem solving questions</p>
<p><u>Assessment:</u> Entry Level Certificate L1-3 test papers Progress tests (every 2 weeks) Mock exams (GCSE style papers)</p>					

Curriculum plan – Maths

Year 10					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><u>Summary:</u> Proportional reasoning Ratio and scale Multiplicative change Multiplying and dividing fractions</p> <p><u>Knowledge:</u> Ratio Problem solving ratios Compare ratios and related fractions Ratio of π Direct proportion Conversion graphs Currencies Shapes Scale factors Multiplication of fractions Unit fractions</p> <p><i>Higher tier</i> <i>Ratios in the form 1 : n</i> <i>Gradient of a line as a ratio</i> <i>Direct proportion graphs</i> <i>Improper and mixed fractions</i></p> <p><u>Skills:</u> Worded problems Problem solving questions</p>	<p><u>Summary:</u> Representations Working in a Cartesian plane Representing data Tables & probability</p> <p><u>Knowledge:</u> Coordinates in all 4 quadrants Parallel lines $y=x$ lines, $y=kx$ lines, $y=x+a$ line graphs with negative gradient Linear sequences Plot graphs Scatter graphs Linear correlation Line of best fit Non-linear correlation Frequency tables Representing data</p> <p><i>Higher tier</i> <i>Non-linear line graphs</i> <i>Product rule</i></p> <p><u>Skills:</u> Worded problems Problem solving questions</p>	<p><u>Summary:</u> Algebraic techniques Brackets, equations and inequalities Sequences Indices</p> <p><u>Knowledge:</u> Algebraic expressions Direct number with algebra Single bracket problems Solving equations (brackets, inequalities) Formulae, expressions, identities and equations Rules (word, algebraic) Expressions Algebraic expressions Addition law</p> <p><i>Higher tier</i> <i>Expanding binomials</i> <i>Solve equations (with unknown and inequalities on both sides)</i> <i>Nth term</i> <i>Powers of powers</i></p> <p><u>Skills:</u> Worded problems Problem solving questions</p>	<p><u>Summary:</u> Developing number Fractions and percentages Standard index form Number sense</p> <p><u>Knowledge:</u> Conversion (fractions, decimals & percentages) Percentage increase and decrease Express number as fraction or percentage Positive powers of 10 Negative powers of 10 Percentage change Percentage problems Numbers in standard form Round numbers Order of operations Metric measures Time problem solving</p> <p><i>Higher tier</i> <i>Percentage problems</i> <i>Negative/ fractional indices</i></p> <p><u>Skills:</u> Worded problems Problem solving questions</p>	<p><u>Summary:</u> Developing geometry Angles in lines and polygons Area of trapezia and circles Line symmetry and reflection</p> <p><u>Knowledge:</u> Angles Parallel lines Triangles and special quadrilaterals Polygon angles Area of shapes (triangles, rectangles, circles) Compound shapes Reflection</p> <p><i>Higher tier</i> <i>Properties of diagonals of quadrilaterals</i> <i>Prove geometric facts</i> <i>Angle bisector</i> <i>Perpendicular bisector</i></p> <p><u>Skills:</u> Worded problems Problem solving questions</p>	<p><u>Summary:</u> Reasoning with data Data handling cycle Measures of location</p> <p><u>Knowledge:</u> Statistical enquiry Questionnaires Pictograms, bar charts and vertical line charts Diagrams for data Quantitative data Range Distributions Misleading graphs Mean, median and mode Average Outliers</p> <p><i>Higher tier</i> <i>Mean from an ungrouped and grouped frequency table</i></p> <p><u>Skills:</u> Worded problems Problem solving questions</p>
<p><u>Assessment:</u> Entry Level Certificate L1-3 test papers Progress tests (every 2 weeks) Mock exams (GCSE style papers) Functional Skills L1 / L1 Number and Measure exam as required</p>					

Curriculum plan – Maths

Year 11					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><u>Summary:</u> Reasoning with Algebra Straight line graphs Forming and solving equations Testing conjectures</p> <p><u>Knowledge:</u> Parallel lines Tables of values Gradients Intercepts $Y=mx+c$ Line graphs Two-step equations Formulae Factors, multiples, primes Expanding binomials</p> <p><i>Higher tier</i> <i>Equations $y=mx+c$</i> <i>Model real-life graphs involving inverse proportion</i> <i>Perpendicular lines</i> <i>Complex formulae inc brackets and squares</i> <i>Expand three binomials</i></p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Constructing in 2 and 3 dimensions Three dimensional shapes Constructions and congruency</p> <p><u>Knowledge:</u> 2-D and 3-D shape names Prisms Nets of 3-D shapes Plans and elevations 2-D shape area Surface areas Volumes Angles Scale drawings Locus of distant from a point/straight line/shape Perpendicular bisector/from a point Congruent figures Congruent triangles</p> <p><i>Higher tier</i> <i>Volumes of cones, pyramids and spheres</i></p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Reasoning with number Number Using percentages Maths and money</p> <p><u>Knowledge:</u> Integers, real and rational numbers Directed number Problem solving HCF & LCM Fractions (add, subtract, divide, multiply) Equivalence (fractions, decimals and percentages) Percentages Percentage problems (calculator and non-calculator) Problem solving (bills and bank statements) Calculations (interest) VAT, wages, taxes Exchange rates</p> <p><i>Higher tier</i> <i>Using surds</i></p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Reasoning with Geometry Deduction Rotation & translation Pythagoras' theorem</p> <p><u>Knowledge:</u> Angles in parallel lines Angle problems inc. algebra and reasoning Conjectures (angles and shapes) Rotational symmetry Line symmetry Shape rotation Shape translation Square and square roots Hypotenuse of triangle Right angle triangles Pythagoras theorem</p> <p><i>Higher tier</i> <i>Link constructions and geometrical reasoning</i> <i>Results of a series of transformations</i> <i>Pythagoras' theorem for 3-D shapes</i></p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Reasoning with proportion Enlargement & similarity Solving ratio & proportion Rates</p> <p><u>Knowledge:</u> Enlargement and similarity Missing angles and sides on similar shapes Direct proportion Conversion graphs Inverse proportion Ratio problems 'best buy' problems Speed, distance and time (calculator & non-calculator) Distance/time graphs Density, mass and volume Rates of change</p> <p><i>Higher tier</i> <i>Enlarge a shape by a negative scale factor</i> <i>Solve problems (similar triangles, ratio & algebra)</i> <i>Compound units</i></p> <p><u>Skills:</u> Worded questions Problem solving questions</p>	<p><u>Summary:</u> Representations and revision Probability Algebraic representation</p> <p><u>Knowledge:</u> Single event probability Relative frequency Expected outcomes Independent events Using diagrams to work out probability Draw and interpret quadratic graphs Interpret graphs, including reciprocal and piece-wise Represent inequalities</p> <p><i>Higher tier</i> <i>Use tree diagrams</i> <i>Graphs of simultaneous equations</i></p> <p><u>Skills:</u> Worded questions Problem solving questions</p>
<p><u>Assessment:</u> Entry Level Certificate L1-3 test papers Progress tests (every 2 weeks) Mock exams (GCSE papers) Functional Skills L1 and L2 / L1 Number and Measure exam</p>					