



Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Number 1 – Basic number and decimals / Factors & Multiples Geometry & Measures (G & M) 1 – Angles / Scale drawings & Bearings	Algebra 1 – Basic Algebra Number 2 -Fractions Statistics 1 – Collecting and Representing data	Algebra 2 – Coordinates and Linear graphs Number 3 – Rounding and Estimation G & M 2 – Perimeter and Area	Algebra 3 - Sequences Ratio & Proportion (R & P) 1 – Basic Percentages G & M 3 - Circles	R & P 2 – Ratio and Proportion Probability 1 Statistics 2 – Scatter Graphs	Algebra 4 - Equations G & M 4 – Pythagoras' Theorem / 2D representations of 3D Shapes
Content	<p>Basic number and decimals</p> <ul style="list-style-type: none"> Ordering numbers Inequality symbols 4 Operations Calculating with negative numbers Place value Factors, Multiples & Prime numbers HCF / LCM <p>Angles</p> <ul style="list-style-type: none"> Measuring and drawing Angle rules Angles on parallel lines <p>Scale drawings & Bearings</p> <ul style="list-style-type: none"> Using scale factors and scale diagrams Measuring, drawing and calculating bearings 	<p>Basic Algebra</p> <ul style="list-style-type: none"> Order of operations Algebraic notations Collecting like terms Expanding single brackets Factorising into a single bracket <p>Fractions</p> <ul style="list-style-type: none"> Order fractions Four operations with fractions Improper fractions and mixed numbers <p>Collecting and Representing data</p> <ul style="list-style-type: none"> Definitions of data Draw and interpret bar charts, line graphs, pictograms, pie charts, time series graphs 	<p>Coordinates and Linear graphs</p> <ul style="list-style-type: none"> Coordinates in all four quadrants Plot straight line graphs Gradients and intercepts Equation of a straight line <p>Rounding and Estimation</p> <ul style="list-style-type: none"> Rounding numbers to decimal places Rounding numbers to significant figures Estimation Bounds and error intervals <p>Perimeter and Area</p> <ul style="list-style-type: none"> Perimeter of shapes Area of rectangles, triangles, parallelograms and trapezia Compound shapes Surface area of cuboids and prisms 	<p>Sequences</p> <ul style="list-style-type: none"> triangle, square, cube numbers Continuing sequences Generating sequences Nth term of a sequence Fibonacci, quadratic and geometric <p>Basic percentages</p> <ul style="list-style-type: none"> % of an amount % change Convert between %, fractions and decimals % increase and decrease <p>Circles</p> <ul style="list-style-type: none"> Naming parts Circumference of a circle Area of a circle Compound shapes Surface area of sphere, pyramids and cones 	<p>Ratio and Proportion</p> <ul style="list-style-type: none"> Ratios as fractions Simplifying ratios 1:n or n:1 Dividing in a ratio Multiplicative relationships Ratios as graphs Best buys <p>Probability</p> <ul style="list-style-type: none"> Listing outcomes Probability from experiments Exhaustive and mutually exclusive events Calculating probabilities Two-way tables Frequency trees <p>Scatter graphs</p> <ul style="list-style-type: none"> Correlation Plotting and interpreting scatter graphs Drawing and using lines of best fit Outliers Causation 	<p>Equations</p> <ul style="list-style-type: none"> Substitution into formulae Solving linear equations Graphical solutions <p>Pythagoras' Theorem</p> <ul style="list-style-type: none"> Calculating the length of the hypotenuse Calculating the length of a shorter side <p>2D representations of 3D Shapes</p> <ul style="list-style-type: none"> Names and properties of 3D shapes Isometric drawings Plans and elevations Nets
Rationale/ Linking	Link forward to: Year 9 – N2, N3, A2, R&P1, R&P2 Year 10 – N4, N5, A6, A8, R&P3, G&M7-9	From Y9: N1 Link forward to: Year 9 – A2, A3, A4, P1, R&P1, R&P2 Year 10 – A5-8, R&P3 Year 11 – A9, A10	From Y9: N1, A1 Link forward to: Year 9 – S2, G&M3, G&M4 Year 10 – G&M5-10, A6-8, N5, Year 11 – A10, A11	From Y9: N1-3, A1, A2 Link forward to: Year 9 R&P2 Year 10 – A5, R&P3, G&M9 Year 11 – R&P5	From Y9: N1, N2, R&P1, A2 Links forward to: Year 10 – A8, R&P3 Year 11 – P2, R&P4	From Y9: A1, A2, G&M2 Links forward to: Year 10 – A5-8, G&M8, G&M10 Year 11 – G&M11, A10, A11
Assessment	5 Assessment Points throughout the year: October, December, February, April and June			Learning Resources	Black pen, green pen, pencil, ruler, protractor, compass, scientific calculator	



**Curriculum Overview for:
Mathematics**

**Key Stage 4
Academic Year Group: 10
Tier: Foundation**

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Number 4 – indices Ratio & Proportion (R & P) 3 – Percentages Geometry & Measures (G & M) 5 – Transformations	Number 5 – Standard Form G & M 6 – Measures Statistics 3 – Statistical Measures	G & M 7 – Constructions & Loci / Congruence & Similarity Algebra 5 – Recap & Extension	G & M 8 – Intro to Trigonometry / Further Perimeter & Area Algebra 6 – Graphs Recap and Extension	G & M 9 – Further Area & Circumference / Properties of Polygons Algebra 7 – Simultaneous Equations	Algebra 8 – Real Life Graphs / Inequalities G & M 10 – Volume & Surface Area
Content	<p>Indices</p> <ul style="list-style-type: none"> • Roots & Powers • Index Laws <p>Percentages</p> <ul style="list-style-type: none"> • Fraction, Decimals and Percentage Conversions • Percentage of an amount • Increase & Decrease by a Percentage • Original Value • Repeated Percentage Change <p>Transformations</p> <ul style="list-style-type: none"> • Rotation • Reflection • Translation • Enlargement 	<p>Standard Form</p> <ul style="list-style-type: none"> • Convert to and from standard form • Calculate with Standard Form <p>Measures</p> <ul style="list-style-type: none"> • Reading Scales • Estimation • Convert between metric & imperial units • Upper & Lower Bounds • Compound Units (Speed, Density & Pressure) • Convert between compound units <p>Statistical Measures</p> <ul style="list-style-type: none"> • Types of Data • Find Mean, Median, Mode and Range from a list and grouped & ungrouped frequency tables 	<p>Constructions & Loci</p> <ul style="list-style-type: none"> • Construct a Perpendicular/ Angle Bisector • Solve Loci Problems <p>Congruence & Similarity</p> <ul style="list-style-type: none"> • Congruent Triangles • Similar Shapes <p>Algebra Recap & Extension (Y9 Recap)</p> <ul style="list-style-type: none"> • Simplify & manipulate expressions • Solve linear equations • Sequences (nth term) • Identities 	<p>Introduction to Trigonometry</p> <ul style="list-style-type: none"> • SOH CAH TOA • Finding missing angles & sides of a right angled triangle <p>Further Perimeter & Area</p> <ul style="list-style-type: none"> • Perimeter & Area of 2D Shapes including composite <p>Graphs recap and extension</p> <ul style="list-style-type: none"> • Coordinates • Horizontal & Vertical Graphs • Linear Graphs • Equation of a Line • Parallel Lines 	<p>Circumference & Area</p> <ul style="list-style-type: none"> • Parts of a circle • Area & Circumference of Circles, in terms of pi • Perimeter & Area of Part Circles • Arc Length & Sector Area <p>Properties of Polygons</p> <ul style="list-style-type: none"> • Angles Recap • Quadrilaterals • Angles in regular & irregular polygons <p>Simultaneous Equations</p> <ul style="list-style-type: none"> • Solving Simultaneous Equations by elimination method and graphically 	<p>Real Life Graphs</p> <ul style="list-style-type: none"> • Conversion Graphs • Distance-Time Graphs <p>Inequalities</p> <ul style="list-style-type: none"> • Inequality Symbols • Represent inequalities on a number line • Solve inequalities <p>Volume & Surface Area</p> <ul style="list-style-type: none"> • Faces, Edges & Vertices • Volume & Surface Area of Prisms • Volume of Pyramids, Spheres, Cones • Surface area of Cones, Pyramids & Spheres
Rationale/ Linking	From Y9: N1, N2, R&P1, G&M2 Link forward to: Year 10 – N5, G&M7, Year 11 – A9, R&P5, G&M12	From Y9: G&M1, N1, N3, S1 Y10: N4 Link forward to: Year 10 – A8	From Y9: G&M1, G&M2, A1, A3, A4 Y10: G&M5 Link forward to: Year 10 – A6-8 Year 11 – A9-11	From Y9: G&M4, G&M2, A2 Y10: A5 Link forward to: Year 10 – A7, A8, G&M10 Year 11 – G&M11, A9-11	From Y9: G&M3, G&M1, A1, A4 Y10: A5, A6 Links forward to: Year 10 – G&M10 Year 11 – A9, A10	From Y10: G&M6, A6, A5, G&M8
Assessment	5 Assessment Points throughout the year: October, December, February, April and June			Learning Resources	Black pen, green pen, pencil, ruler, protractor, compass, scientific calculator	



Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Topic	Algebra 9 – algebraic manipulation Probability 2 Ratio and proportion (R & P) 4 - Direct and inverse proportion	Mock exams Geometry and measures (G & M) 11 - Trigonometry Algebra 10 – Forming & Solving Equations, Linear & quadratic graphs	Algebra 11 – Solving quadratic equations, Non-linear Graphs R & P 5 - Growth and decay	G & M 12 - Vectors Revision on areas of weakness identified by the class teacher from the mocks alongside in class assessments	Revision on areas of weakness identified by the class teacher from the mocks alongside in class assessments
Content	Algebraic manipulation <ul style="list-style-type: none"> • Index laws • Simplifying expressions • Expanding and factorising single and double brackets • Rearranging formulae • Substitution • Identities Probability <ul style="list-style-type: none"> • Calculate probabilities • 2-way tables • Frequency trees • Sample space diagrams • Tree diagrams • Venn diagrams Direct and Inverse proportion <ul style="list-style-type: none"> • Direct proportion • Recipes • Graphs of direct proportion • Forming equations • Inverse proportion • Inverse proportion graphs 	Trigonometry <ul style="list-style-type: none"> • Pythagoras' Theorem • Labelling triangles • Finding sides • Finding angles • Exact Values Forming & solving equations <ul style="list-style-type: none"> • Solve linear equations • Setting up equations and expressions • Simultaneous equations Linear & Quadratic Graphs <ul style="list-style-type: none"> • Plotting linear graphs • Solve simultaneous equations graphically • Plotting quadratic graphs • Finding roots, intercepts, turning points • Approximate solutions 	Solving quadratic equations <ul style="list-style-type: none"> • Factorising quadratics • Solving quadratic equations • Solving graphically Non-linear Graphs <ul style="list-style-type: none"> • Cubic graphs • Reciprocal graphs • Identify and sketch linear, quadratic, cubic and reciprocal graphs Growth and decay <ul style="list-style-type: none"> • Appreciation and depreciation • Compound interest • Growth and Decay problems 	Vectors <ul style="list-style-type: none"> • Column Vectors • Vector addition • Scalar multiplication 	
Rationale/ Linking	Links from: N4, A5-8, R&P2, R&P3, P1 Links forward to: A10, A11	Links from: G&M4, G&M8, A5-9 Links forward to: A11	Links from: A5-10, R&P1-3	Links from: G&M5	
Assessment	AP1 Year 11 mocks AP2 in class AP3 in class AP4 in class Additional past papers completed in class during revision			Learning Resources	Black pen, green pen, pencil, ruler, protractor, compass, scientific calculator