| ***Focus area*** | ***Emerging*** *– a student who has emerging skills in the Y7 Maths curriculum will be able to:* | ***Developing*** *– a student who has developing skills in the Y7 Maths curriculum will be able to:* | ***Secure*** *– a student who has secure skills in the Y7 Maths curriculum will be able to:* | ***Mastered*** *– a student who has mastered the skills in the Y7 Maths curriculum will be able to:* |
|---|---|---|---|---|
| **Algebraic Thinking**<br><br>• Sequences<br>• Understand and use algebraic notation<br>• Equality and Equivalence | Describe and continue a sequence given diagrammatically<br>Predict and check terms of a sequence<br><br>Use a single function machine<br><br>Understand and use fact families | Represent sequences in tabular and graphical form<br>Continue linear sequence<br>Explain term to term rule in words<br><br>Use a two-step function machine<br>Solve one step linear equations using inverses | Recognise the difference between linear and non- linear sequence<br>Continue non-linear sequence<br>Use diagrams and letters with single and two step functions<br>Simplify algebraic expressions by collecting like terms | Finding missing numbers within sequences<br>Substitute values into two step functions<br>Generate sequences given algebraic rule<br>Represent functions graphically |
| **Place Value and Proportion**<br><br>• Place Value and Ordering Integers and Decimals<br>• Fraction, Decimal and Percentages | Recognise and write integers up to 1 billion in words and figures<br>Work out interval and position integers on a number line<br>Order a list of integers | Represent decimals and fractions as diagrams and on a number line<br>Compare two numbers using mathematical notation<br>Round integers to the nearest power of 10<br>Identify and use simple equivalent fractions | Find range and median of a set of numbers<br>Round a number to 1 significant figure<br>Convert fluently between fractions and decimals<br>Use pie charts involving simple fractions | Write numbers in standard form<br>Interpret pie charts using simple fractions<br>Explore fractions, decimals and percentages greater than 1 |
| **Applications of Number**<br><br>• Solving Problems with addition and subtraction | Use mental strategies for addition and subtraction<br>Use formal methods for addition and subtraction of integers<br>Multiply integers by powers of ten | Use formal methods for addition and subtraction of decimals<br>Divide integers by powers of ten<br>Understand and use factors<br>Understand and use multiples | Choose the most appropriate method of addition and subtraction<br>Solve problems in the context of perimeter<br>Solve financial maths problems | Solve problems involving tables and timetables<br>Solve problems with frequency trees<br>Solve problems with bar charts and line charts<br>Add and subtract numbers in standard form |

| | | | | |
|---|---|---|---|---|
| • Solving problems with multiplication and division<br>• Fractions and percentages of amounts | Find a fraction of an amount | Use formal methods to multiply and divide integers<br>Understand and use order of operations<br>Solve problems using the area of rectangles and parallelograms<br>Solve problems using the mean<br>Find the percentage of an amount (multiples of 5%) using mental methods<br>Find the percentage of an amount using a calculator | Multiply and divide decimals by powers of ten<br>Convert metric units<br>Use formal methods to multiply and divide decimals<br>Solve problems using the area of triangles<br>Find the percentage of an amount (any value %) using mental methods | Multiply be 0.1 and 0.01<br>Solve problems using the area of trapezia<br>Explore multiplication and division in algebra<br>Solve problems with fractions greater than 1 and percentages greater than 100% |
| **Directed Number**<br>• Operations and equations with directed number | Understand and use representations of directed numbers<br>Order directed numbers using lines and appropriate symbols | Perform calculations that cross zero<br>Add directed numbers<br>Use a calculator for directed number calculations | Subtract directed numbers<br>Multiplication of directed numbers<br>Divide directed numbers<br>Evaluate algebraic expressions with directed number<br>Solve two-step equations<br>Use order of operations with directed number | Roots of positive numbers<br>Explore higher powers and roots |
| **Fractional Thinking**<br>• Addition and subtraction of fractions | Understand representations of fractions<br>Add and subtract fractions with same denominators | Compare fractions with different denominators<br>Simplify fractions<br>Add and subtract fractions where the denominators share a common multiple | Convert between mixed numbers and improper fractions.<br>Add and subtract fractions with different denominators Including mixed numbers<br>Use equivalence to add and subtract decimals and fractions | Using fractions in algebraic contexts<br>Add and subtract simple algebraic fractions |

| | | | | |
|---|---|---|---|---|
| **Lines and angles**<br><br>• Constructing, measuring and using geometric notation<br>• Develop geometric reasoning | Understand and use letter and labelling conventions<br>Draw and measure line segments<br>Understand angles as a measure of turn<br>Classify angles<br>Identify parallel and perpendicular lines<br>Recognise types of triangle<br>Recognise types of quadrilateral | Measure and draw angles up to 180°<br>Identify polygons up to a decagon<br>Interpret simple pie charts using proportion<br>Understand and use the sum of angles at a point and on a straight line<br>Understand and use the equality of vertically opposite angles<br>Know and apply the sum of angles in triangles and quadrilaterals<br>Find common factors of a set of numbers including the HCF<br>Find common multiples of a set of numbers including LCM | Draw and measure angles between 180° and 360°<br>Interpret pie charts using a protractor<br>Draw pie charts<br>Solve angle problems using properties of triangles and quadrilaterals<br>Recognise square and triangular numbers<br>Write a number as a product of it's prime factors | Construct triangles using SSS, SAS and ASA<br>Construct more complex polygons<br>Solve complex angle problems<br>Find and use the angle sum of any polygon<br>Investigate angles in parallel lines<br>Understand and use parallel line angle rules<br>Use known facts to obtain simple proofs |
| **Reasoning with number**<br><br>• Developing number sense<br>• Sets and probability<br>• Prime numbers and proof | Know and use mental addition and subtraction methods for integers<br>Know and use mental multiplication and division strategies for integers<br>Identify and represent sets<br>Know and use the vocabulary of probability | Know and use mental arithmetic strategies for decimals<br>Use factors to simplify calculations<br>Use estimation as a method for checking mental calculations<br>Use known number facts to derive other facts | Know and use mental arithmetic for fractions<br>Use known algebraic facts to derive other facts<br>Understand and use the intersection of sets<br>Understand and use the union of sets<br>Recognise square and triangular numbers | Understand and use the complement of a set<br>Use a Venn diagram to calculate the HCF and LCM<br>Make and test conjectures<br>Use counterexamples to disprove a conjecture |

| | | | | |
|---|---|---|---|---|
| | Generate sample spaces for single events<br>Calculate the probability of a single event<br>Understand and use the probability scale<br>Know that the sum of all probabilities of all possible outcomes is 1<br>Find and use multiples | Interpret and create Venn diagrams<br>Identify factors of numbers and expressions<br>Recognise and identify prime numbers<br>Find common factors of a set of numbers including the HCF<br>Find common multiples of a set of numbers including LCM | Write a number as a product of it's prime factors | |

| ***Focus area*** | ***Emerging*** *– a student who has emerging skills in the Y8 Maths curriculum will be able to:* | ***Developing*** *– a student who has developing skills in the Y8 Maths curriculum will be able to:* | ***Secure*** *– a student who has secure skills in the Y8 Maths curriculum will be able to:* | ***Mastered*** *– a student who has mastered the skills in the Y8 Maths curriculum will be able to:* |
|---|---|---|---|---|
| **Proportional Reasoning**<br>Ratio and Scale | Understand the meaning and representation of ratio<br>Understand and use ratio notation<br>Simplify ratio values | Divide in a given ratio<br>Compare ratios and related fractions | Solve problems involving ratios in the form 1:n<br>Understand Pi as the ratio between the diameter and circumference | Express ratios in the form 1:n or n:1<br>Understand the gradient of a straight line as a ratio |
| Multiplicative Change | Solve problems involving direct proportion<br>Explore conversion graphs | Convert between currencies<br>Draw and interpret scale drawings | Explore relationships between similar shapes<br>Understand scale factors<br>Interpret maps and using scale factors and ratios | Explore direct proportion graphs |
| Multiplying and Dividing Fractions | Multiply a fraction by an integer | Multiply two fractions | Understand and use reciprocals<br>Divide two fractions | Multiply and divide improper and mixed fractions<br>Multiply and divide algebraic fractions |

| ***Focus area*** | ***Emerging*** *– a student who has emerging skills in the Y8 Maths curriculum will be able to:* | ***Developing*** *– a student who has developing skills in the Y8 Maths curriculum will be able to:* | ***Secure*** *– a student who has secure skills in the Y8 Maths curriculum will be able to:* | ***Mastered*** *– a student who has mastered the skills in the Y8 Maths curriculum will be able to:* |
|---|---|---|---|---|
| **Representations** | | | | |

| | | | | |
|---|---|---|---|---|
| Working in the Cartesian Plane | Work with coordinates in all 4 quadrants | Identify and draw lines that are parallel to the axes<br>Recognise and use lines in the form y=x+a | Recognise and use the line y=x<br>Recognise and use lines in the form y=kx<br>Link graphs to sequences<br>Plot graphs of the form y=mx+c | Link y=kx to direct proportion problems<br>Explore the gradient of y=kx<br>Explore graphs with negative gradients<br>Explore non-linear graphs<br>Find the midpoint of a line segment |
| Representing Data | Draw and interpret scatter graphs<br>Identify different types of data<br>Represent data into 2-way tables | Understand and use correlation<br>Read and interpret ungrouped frequency tables<br>Represent grouped discrete data | Draw and interpret the line of best fit<br>Read and interpret grouped frequency tables | Represent continuous data into grouped equal classes |
| Tables and Probability | Calculate probabilities from events | Construct sample spaces for 1 or more events<br>Find probabilities from sample spaces<br>Find probabilities from two-way tables | Use the product rule to find the total number of outcomes<br>Find probabilities from Venn diagrams | |
| ***Focus area*** | ***Emerging*** *– a student who has emerging skills in the Y8 Maths curriculum will be able to:* | ***Developing*** *– a student who has developing skills in the Y8 Maths curriculum will be able to:* | ***Secure*** *– a student who has secure skills in the Y8 Maths curriculum will be able to:* | ***Mastered*** *– a student who has mastered the skills in the Y8 Maths curriculum will be able to:* |
| **Algebraic Techniques**<br>Brackets, Equations and Inequalities | Form algebraic expressions<br>Use directed number with algebra | Multiply out a single bracket<br>Factorise a single bracket<br>Solve equations with brackets<br>Understand and solve simple inequalities | Expand multiply brackets and simplify<br>Form equations with brackets | Expand a pair of binomials<br>Form and solve inequalities |

| | | | | |
|---|---|---|---|---|
| | | Identify and use formulae, expressions, equations and identities | Solve equations and inequalities with unknowns on both sides | Form equations and inequalities with unknowns on both sides |
| Sequences | Generate a sequence give a rule in words | Generate a sequence given a simple algebraic rule | Generate a sequence given a complex algebraic rule<br>Calculate the nth term for a linear sequence | |
| Indices | Adding and subtracting expressions with indices | Simplify algebraic expressions by multiplying indices<br>Simplify algebraic expressions by dividing indices | Use addition law for indices<br>Using subtraction law for indices | Exploring powers of powers |
| ***Focus area*** | ***Emerging*** *– a student who has emerging skills in the Y8 Maths curriculum will be able to:* | ***Developing*** *– a student who has developing skills in the Y8 Maths curriculum will be able to:* | ***Secure*** *– a student who has secure skills in the Y8 Maths curriculum will be able to:* | ***Mastered*** *– a student who has mastered the skills in the Y8 Maths curriculum will be able to:* |
| **Developing Number**<br><br>Fractions and Percentages | Convert fluently between key fractions, decimals and percentages<br>Calculate key fraction decimal and percentages of amounts without a calculator | Calculate key fraction decimal and percentages of amounts using calculator methods<br>Convert between decimals and percentages greater than 100% | Calculate percentage decrease with a multiplier<br>Express one number as a fraction or a percentage of another without a calculator<br>Express one number as a fraction or a percentage of | Find the original amount given the percentage less than 100%<br>Find the original amount given the percentage greater than 100% |

| | | | | |
|---|---|---|---|---|
| Standard Form<br><br>Number Sense | Investigate powers of 10<br><br>Round numbers to powers of 10 and 1 significant figure<br>Round numbers to a given number of decimal places | Work with numbers greater than 1 in standard form<br>Investigate negative powers of 10<br><br>Estimate the answer to a calculation<br>Calculate using the order of operations<br>Calculate with money<br>Solve problems involving time and calendar | another using calculator methods<br>Work with percentage change<br>Choose appropriate methods to solve percentage problems<br><br>Work with numbers in standard form<br>Compare and order numbers in standard form<br>Mentally calculate with numbers in standard form<br>Add and subtract numbers in standard form<br>Multiply and divide numbers in standard form<br>Use a calculator to work with numbers in standard form<br><br>Convert metric units of length<br>Convert metric units of weight and capacity | Choose appropriate methods to solve complex percentage problems<br><br>Understand and use negative indices<br>Understand and use fractional indices<br><br>Understand and use error intervals<br>Convert metric units of area<br>Convert metric units of volume |
| ***Focus area*** | ***Emerging*** *– a student who has emerging skills in the Y8 Maths curriculum will be able to:* | ***Developing*** *– a student who has developing skills in the Y8 Maths curriculum will be able to:* | ***Secure*** *– a student who has secure skills in the Y8 Maths curriculum will be able to:* | ***Mastered*** *– a student who has mastered the skills in the Y8 Maths curriculum will be able to:* |
| **Developing Geometry**<br><br>Angles in parallel lines and polygons | Understand and use basic angle rules and notation<br>Construct triangles and quadrilaterals<br>Investigate the properties of special quadrilaterals | Investigate angles between parallel lines and the transversal<br>Identify and calculate with alternate and corresponding angles<br>Identify and calculate with sides and angles in special quadrilaterals | Identify and calculate co-interior angles<br>Understand and use the sum of interior angles of polygons<br>Understand and use the sum of exterior angles of polygons<br>Calculate missing interior angles in polygons | Solve complex problems involving parallel lines<br>Understand and use the properties of diagonals in quadrilaterals<br>Prove simple geometric facts<br>Construct the angle bisector |

| | | | | |
|---|---|---|---|---|
| Area of trapezia and circles<br><br>Lines of Symmetry and Rotation | Calculate the area of rectangles, triangles and parallelograms<br><br>Recognise the line of symmetry | Calculate the area of a trapezium<br>Calculate the area and perimeter of compound shapes<br><br>Reflect a shape in a horizontal or vertical line | Investigate the area of a circle<br>Calculate the area of a circle and parts of a circle with and without a calculator<br><br>Reflect a shape in a diagonal line | Construct the perpendicular bisector of a line segment<br><br>Calculate the area and perimeter of more complex compound shapes<br><br>Describe the reflection of a shape |
| **Reasoning with Data**<br><br>The Data Handling Cycle<br><br>Measures of Location | Draw and interpret pictograms, bar charts and vertical line charts<br><br>Understand and use the mode and median | Set up a statistical enquiry<br>Design and criticise a questionnaire<br>Draw and interpret multiple bar charts<br>Find and interpret the range<br><br>Understand and use the mean | Draw and interpret Pie Charts<br>Draw and interpret Line Charts<br>Represent and interpret grouped quantitative data<br>Choose the most appropriate diagram for a given data set<br><br>Identify outliers<br>Choose the most appropriate average<br>Compare distributions using averages and range | Compare distributions in charts<br>Identify misleading charts<br><br>Find the mean from an ungrouped frequency table<br>Find the mean from a grouped frequency table |

| ***Focus area*** | ***Emerging*** *– a student who has emerging skills in the Y9 Maths curriculum will be able to:* | ***Developing*** *– a student who has developing skills in the Y9 Maths curriculum will be able to:* | ***Secure*** *– a student who has secure skills in the Y9 Maths curriculum will be able to:* | ***Mastered*** *– a student who has mastered the skills in the Y9 Maths curriculum will be able to:* |
|---|---|---|---|---|
| **Reasoning with Algebra**<br>• Straight line Graphs | Draw lines parallel to the axes<br>Draw the line y=x and y=-x<br>Use a table of values | Compare gradients and intercepts<br>Understand and use y=mx+c | Write an equation for y=mx+c<br>Find the equation from a graph<br>Interpret gradients and intercepts from real life situations | Model real-life graphs involving inverse proportion<br>Understand and use perpendicular gradients |
| • Forming and solving equations | Solve one and two step equations and inequalities<br>Substitute into formulae and equations | Solve equations involving brackets<br>Solve inequalities with negative numbers<br>Solve equations with unknown on both sides | Rearrange one step formulae | Rearrange two step formulae including brackets and powers |
| • Testing Conjectures | To know and use factors, multiples and primes | | | |
| **Constructing 2D and 3D Shapes**<br>• 3-Dimensional Shapes | Know the names of 2D and 3D shapes<br>Draw accurate nets of 3D solids<br>Calculate the area of 2D shapes | Draw plan and elevation drawings of 3d shapes<br>Calculate the surface area of cubes and cuboids<br>Calculate volume of cubes and cuboids | Calculate the surface area of triangular prisms<br>Calculate the volume of cylinders and prisms | Calculate the surface area of a cylinder<br>Calculate the volume of cones and spheres |
| • Constructions and Congruency | Draw and measure an angle<br>Construct and interpret scale drawings<br>Construct any triangle given side / angle information | Draw the locus from a point<br>Construct the perpendicular bisector<br>Identify congruent figures | Construct a perpendicular from a point and to a point | Explore and identify congruent triangles |
| **Reasoning with Number**<br>• Numbers | Understand and use integers | | | Understand and use surds |

| | | | | |
|---|---|---|---|---|
| • Using Percentages<br><br>• Maths and Money | Use directed numbers<br><br>Use equivalent fractions, decimals and percentages<br><br>Solve problems with bills and bank statements | Understand and use rational numbers<br>Solve problems<br>Calculate the HCF and LCM of two numbers<br>To perform the 4 operations on fractions<br><br>Calculate percentage increase and decrease for any number (calculator and non-calculator)<br>Express a number as a percentage<br><br>Calculate simple interest<br>Solve problems involving VAT<br>Calculate wages and taxes<br>Solve problems with exchange rates<br>Solve unit pricing problems | Write any number in and out of standard form<br><br>Solve reverse percentage problems<br><br>Calculate compound interest | Perform calculations with numbers in standard form<br><br>Solve problems with repeated percentage change |
| **Reasoning with Geometry**<br>• Deduction (Angles)<br><br>• Rotation and Translations<br><br>• Pythagoras' Theorem | Calculate missing angles involving straight lines and angles around a point<br><br>Identify the order of rotational symmetry of a shape | Solve problems involving parallel lines<br><br>Draw and describe translate a shape<br>Draw and describe the rotation of a shape<br>Draw and describe the rotation of a shape | Set up and solve equations involving angle problems<br><br>Calculate the hypotenuse using Pythagoras' theorem<br>Calculate a smaller side in a triangle using Pythagoras' theorem | Find the result of a series of transformations<br><br>Apply Pythagoras' theorem to problems<br>Use Pythagoras theorems in 3D solids |

| | | | | |
|---|---|---|---|---|
| **Reasoning with Proportion**<br>• Enlargement and Similarity | Recognise an enlargement and similarity of a shape | | Draw and describe the enlargement of a shape using a positive integer value<br>Work out the missing sides and angles in a similar shape | Draw and describe the enlargement of a shape using a negative integer value<br>Draw and describe the enlargement of a shape using a fractional value<br>Solve problems using similar shapes |
| • Ratio | Simplify ratios<br>Solve ratio problems when given the whole or part value | Use direct proportion graphs<br>Solve best buy problems | Solve problems involving ratio and algebra | Graph inverse relationships |
| • Rates | Use distance time graphs | Solve speed distance time problems with and without a calculator<br>Solve problems involving density mass and volume | | Convert between compound units |
| **Representations**<br>• Probability | Use the 5 probability words to describe the likelihood of an event and plot on a number line<br>Work out the probability for single events | Work out the relative probability of an experiment<br>Work out the expected value from an event | Use diagrams to work out probabilities<br>Use tree diagrams to solve probability problems with replacement | |
| • Algebraic Representation | Complete a table of values and plot a linear graph | Complete a table of values for a quadratic graph<br>Plot the points for a quadratic graph | Interpret quadratic graphs<br>Represent inequalities | Interpret graphs including reciprocal<br>Investigate graphs of simultaneous equations |

| *Focus area* | *Number* | *Algebra* | *Geometry* | *Statistics and Probability* |
|---|---|---|---|---|
| **Grade G Foundation** | Place Value<br>Ordering Integers<br>Ordering Decimals<br>Reading Scales<br>Simple Mathematical Notation | | Tessellations and Congruency<br>Polygons<br>Naming of Angles | Probability Scale<br>Tally Charts and Bar Charts<br>Pictograms |
| **Grade F Foundation** | Interpreting Real-Life Graphs<br>Adding Integers and Decimals<br>Subtracting Integers and Decimals<br>Multiplying Integers<br>Dividing Integers<br>Inverse Operations<br>Money Questions<br>Negatives in Real Life<br>Factors, Multiples and Primes<br>Multiply and Divide by Powers of 10<br>Rounding to Nearest 10,100,1000<br>Introduction to Fractions | Introduction to Algebra<br>Coordinates | Simple Geometric Definitions<br>Properties of Solids<br>Symmetries | Data – Discrete and Continuous |
| **Grade E Foundation Intermediate** | Multiplying Decimals<br>Dividing Decimals<br>Equivalent Fractions<br>Simplifying Fractions<br>Comparing Fractions<br>Introduction to Powers/Indices<br>Rounding to Decimal Places<br>Listing Strategies<br>Introduction to Ratio<br>Using Ratio with Recipe Questions<br>Introduction to Percentages<br>Value for Money | Simplifying Like Terms – Adding and Subtracting<br>Function Machines<br>Generating a Sequence | Nets<br>Measuring and Drawing Angles<br>Drawing a Triangle using a Protractor<br>Perimeters<br>Area of Rectangles<br>Circle Definitions | Listing Outcomes<br>Calculating Probabilities<br>Possibility Spaces<br>Two-Way Tables |
| **Grade D Foundation Intermediate** | Four Rules for Negatives<br>Adding and Subtracting Fractions<br>Finding a Fraction of an Amount<br>Multiplying Fractions<br>Dividing Fractions<br>Order of Operations<br>Calculator Questions<br>Product of Primes | Simplifying – Multiplication<br>Simplifying – Division<br>Expanding Brackets<br>Substitution<br>Solving Equations<br>Linear Sequences<br>Finding the nth term<br>Straight Line Graphs | Angles on a Straight Line<br>Angles around a Point<br>Angles in a Triangle<br>Properties of Triangles<br>Angle Sum of Polygons<br>Drawing a triangle using a compass | Questionnaires<br>Mutually Exclusive Events<br>Experimental Probabilities<br>Venn Diagrams<br>Pie Charts<br>Averages and Range |

| | | | | |
|---|---|---|---|---|
| | Squares, Cubes and Roots<br>Working with Indices<br>Decimals and Fractions<br>Fractions, Percentages and Decimals<br>Percentage of an Amount (With/without calculator)<br>Change to a Percentage (With/without calculator)<br>Simple Interest<br>Using Place Value<br>Introduction to Proportion<br>Exchanging Money<br>Sharing using a Ratio<br>Distance-Time Graphs | | Problems with Co-ordinate Axes<br>Midpoint of a Line on a Graph<br>Reflections<br>Rotations<br>Translations<br>Enlargements<br>Area of a Triangle<br>Area of a Parallelogram<br>Area of a Trapezium<br>Unit Conversions<br>Speed Distance Time<br>Surface Area of a Cuboid<br>Volume of a Cuboid<br>Area of Circle<br>Circumference of a Circle<br>Tangents, Arcs, Sectors and Segments<br>Bisecting an Angle<br>Bisecting a Line<br>Bearings | |
| **Grade C Intermediate Higher** | Reciprocals<br>Highest Common Factor<br>Lowest Common Multiple<br>Rounding to Significant Figures<br>Estimating Answers<br>Introduction to Bounds<br>Recurring Decimals to Fractions<br>Increase/Decrease by a Percentage<br>Percentage Change | Gradient of a Line<br>Drawing Quadratic Graphs<br>Quadratic Sequence from the nth term<br>Special Sequences<br>Simple Factorisation<br>Expanding and Simplifying Brackets<br>Solving Equations<br>Forming Formulae and Equations<br>Rearranging Simple Formulae<br>Inequalities on a Number Line<br>Solving Linear Inequalities<br>Solving Simultaneous Equations Graphically | Geometric Properties of Quadrilaterals<br>Plans and Elevations<br>Surface Area of a Prism<br>Volume of a Prism<br>Dimensions<br>Density<br>Constructing Perpendiculars<br>Constructing Angles<br>Loci<br>Enlargements Fractional Scale Factors<br>Similar Shapes<br>Pythagoras Theorem | Frequency Diagrams<br>Sampling Populations<br>Averages from a Table |
| **Grade B Intermediate Higher** | Standard Form<br>Index Notation<br>Negative Indices<br>Error Intervals | Factorising and Solving Quadratic Equations<br>The Difference of Two Squares<br>Simultaneous Equations | Trigonometry<br>Circle Theorems | Tree Diagrams<br>Cumulative Frequency Diagrams |

| | | | | |
|---|---|---|---|---|
| | Mathematical Reasoning<br>Compound Interest and Depreciation<br>Reverse Percentage Problems | Trial and Improvement<br>Finding the Equation of a Straight Line<br>Finding nth term of Quadratic Sequences | | |
| **Grade A/A* Higher** | Fractional Indices<br>Recurring Decimals to Fractions Proof<br>Direct and Indirect Proportion<br>Upper and Lower Bounds<br>Surds | Rearranging Difficult Formulae<br>Solving Quadratics with the Formula<br>Factorising Harder Quadratics<br>Algebraic Fractions<br>Cubic and Reciprocal Graphs<br>Trigonometric Graphs<br>Transformation of Functions<br>Regions<br>Area under a Curve | Similarity – Area and Volume<br>Congruent Triangles Proof<br>Sectors of a Circle<br>Spheres<br>Pyramids<br>Cones<br>Enlargements Negative Scale Factor<br>Sine Rule<br>Cosine Rule<br>Area of a Triangle using Trig<br>3D Pythagoras | Probability of Combined Events<br>Histograms |