

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Pre Year 7						
This course is studied in primary school.		Interventions/support in place: Afterschool Targeted Intervention. Learning Support Assistance in Classes Small Group Intervention during lesson time for targeted pupils				
Year 7						
Topic/Focus	<p><b><u>NP1 (5 weeks) Place Value &amp; the Number Line</u></b> Writing integers and decimals Ordering positive and negative integers and decimals including placing on a number line Multiplying and Dividing by Powers of 10 Rounding to nearest integer, decimal and significant figure. Converting Metric Units Calculating the midpoint of two numbers and the median of a list of numbers Binary</p> <p><b><u>NP2 (2 weeks plus 1 week in AUT2) Addition &amp; Subtraction</u></b> Adding and Subtracting positive integers and decimals Understanding the commutative and associative laws</p>	<p><b><u>NP2 (1 week following on from AU1) Addition &amp; Subtraction</u></b> <u>Angles</u>- On a straight line, around a point, vertically opposite and in a triangle Calculating Mean and Range of a set of data Applying addition and subtraction to real life problems Addition and Subtraction in Binary</p> <p><b><u>NP3 (4 weeks) Multiplication &amp; Division</u></b> Calculating multiplication tables up to 12x12 Multiplying and Dividing positive integers and decimals Understanding the commutative, associative laws and distributive properties between multiplication and division</p>	<p><b><u>NP4 (2 weeks following on from AUT2) Powers, Roots &amp; Primes</u></b> Understanding roots as an inverse of powers Prime Numbers Prime Factorisation and using this to find factors of numbers</p> <p><b><u>NP5 (2 weeks) Order of Operations</u></b> Using Order of Operations in Calculations Including Brackets, Indices, Roots and Decimals</p> <p><b><u>NP6 (2 weeks plus 1 week in SPR2) Directed Numbers</u></b> Negative Numbers in Context Ordering Positive and Negative Numbers including on a Number Line Calculating with Negative Numbers</p>	<p><b><u>NP6 (1 weeks following on from SPR1) Directed Numbers</u></b> Powers of Negative Numbers Order of Operations with Negative Numbers Applying Negative Numbers to Real Life Situations</p> <p><b><u>A1 (1 week) Introduction to Algebraic Thinking</u></b> Substituting Numbers for Variables Finding Missing Value of Box or Symbol Addition and Subtraction of Linear Terms Placing Unknowns on a Number Line Using Inequalities</p> <p><b><u>NP7 (4 weeks) Fractions</u></b> Visual Representations of Fractions and Placing on a Number Line Proper, Improper and Equivalent Fractions Simplifying Fractions</p>	<p><b><u>NP8 (4 weeks) Percentages</u></b> Visual Representations of Percentages including Percentages more than 100 Expression One Number as a Percentage of Another FDP Equivalence, Converting and Ordering Calculating Percentage of Amount (Non-Calculator and Calculator) Percentage and Fraction Increase and Decrease The Effect of Multiplying by Numbers between 0 and 1</p> <p><b><u>NP9 (1 week plus 2 weeks in SPR2) Estimation &amp; Use of the Calculator</u></b> Rounding to Decimal Places and Significant Figures Writing Single and Compound Inequalities</p>	<p><b><u>NP9 (2 weeks following on from SUM1) Estimation &amp; Use of the Calculator</u></b> Rounding Errors Upper and Lower Bounds Truncation Error Intervals Approximating Calculations including Powers and Roots Using Percentage Multipliers to Calculate a Percentage of Amount Calculations and Estimations of Time with and without a Calculator Understanding Timetables</p> <p><b><u>GM1 (2 weeks) Drawing, Measuring and Constructing</u></b> Learning how to use a Ruler, Protractor and Compass correctly to Measure and Draw Labelling Line Segments and Angles Correctly</p>

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p>between addition and subtraction.</p> <p>Understand how to invert addition and subtraction calculations and their fact families</p> <p>Understand how to continue an arithmetic/linear sequence</p>	<p>Understand how to invert multiplication and division calculations and their fact families</p> <p>Factors and Multiplies including LCM and HCF</p> <p>Multiplicative reasoning</p> <p>Continuing a geometric sequence</p> <p>Area of rectangles and triangles</p> <p>Volume of Cubes and Cuboids</p> <p>Applying multiplication and division to real life problems</p> <p>Multiplication and division in Binary</p> <p><b><u>NP4 (1 week plus 2 weeks in SPR1) Powers, Roots &amp; Primes</u></b></p> <p>Squares and Roots up to <math>15^2</math></p> <p>Cubes and Roots up to <math>10^3</math></p> <p>Calculating using powers</p>		<p>Calculating with Fractions including Improper Fractions and Mixed Numbers</p> <p>Order of Operations and Problem Solving with Fractions</p>	<p>and Representing them on a Number Line</p>	<p>Constructing Triangles and Parallel Lines</p> <p>Perpendicular and Angle Bisectors</p> <p>Loci-</p> <p>Fixed distance from a Point and a Line</p> <p>Equidistance from two points and two lines</p>
Sequencing	<p>Students need a good understanding of Place Value, Addition and Subtraction as this underpins all Maths skills.</p>	<p>Multiplication and Division naturally follows on from Addition and Subtraction.</p> <p>Powers, Roots and Primes develops the skills learnt in</p>	<p>Pupils need to understand the Order the Operations occur before moving onto higher level skills. This also follows on from the previous operations they have learnt.</p>	<p>Pupils will have already been introduced to substitution and finding missing values. A1 brings this all together and introduces the use of algebra to these previously learnt skills.</p>	<p>Percentages follows on from Fractions and Decimals and enables pupils to identify the links between them.</p>	<p>Before moving onto more complicated Mathematical skills pupils need to understand how to manipulate and simplify expressions (A2) as this links into what pupil will learn in Year 8.</p>



Year 8						
Topic	<p><b><u>NP8 (3 weeks) Percentages</u></b> Visual Representations of Percentages including Percentages more than 100 Expression One Number as a Percentage of Another FDP Equivalence, Converting and Ordering Calculating Percentage of Amount (Non-Calculator and Calculator) Percentage and Fraction Increase and Decrease The Effect of Multiplying by Numbers between 0 and 1</p> <p><b><u>NP9 (2 weeks) Estimation &amp; Use of a Calculator</u></b> Rounding Errors Upper and Lower Bounds Truncation Error Intervals Approximating Calculations including Powers and Roots</p>	<p><b><u>GM1 (1 week following on from AU1) Drawing, Measuring and Constructing</u></b> Loci- Fixed distance from a Point and a Line Equidistance from two points and two lines</p> <p><b><u>A2 (2 weeks) Manipulating and Simplifying Expressions</u></b> Understanding Algebraic Notation Collecting Like Terms Simplifying Indices when Multiplying and Dividing Multiplication Rule for Indices (Power of a Power)</p> <p><b><u>A3 (2 weeks) Manipulating and Simplifying Expressions</u></b> Expanding Single Brackets including Adding or Subtracting them. Factorising into a Single Bracket Expanding Two Simple Binomials</p>	<p><b><u>A4 (2/3 weeks) Linear Equations</u></b> Understanding Equality and Balancing Solving One and Two Step Equations (including Brackets) Solving Equations with an Unknown on Both Sides (including Brackets) Solving Simple Equations when the Unknown is the denominator Forming and Solving Equations</p> <p><b><u>NP10 (3 weeks) Proportional Reasoning</u></b> Calculating Simple Direct and Inverse Proportion Problems Numerically Comparing Quantities (Best Value for Money, Exchange Rates etc) Using Proportion to solve Scaling Up and Down Problems e.g. Recipes Portions, Enlargements of Shapes</p>	<p><b><u>SP1 (3 weeks) Discrete Data</u></b> Understanding the data cycle <b><u>Qualitative data</u></b> Using qualitative data to construct a frequency table, bar chart, pictograms and Pie Charts <b><u>Quantitative data</u></b> Understanding the difference between discrete and continuous data Using quantitative data to construct ungrouped and grouped frequency tables, vertical line charts, bar charts, pie charts, pictograms and Stem and Leaf Diagrams Calculating Mean, Median, Mode, Range and Interquartile Range Comparing Data</p> <p><b><u>GM2 (3 weeks) Polygons and Angles</u></b> Types of Angles Estimating Angles Finding angles and using Angles on a Straight Line,</p>	<p><b><u>SP2 (2 weeks) Bivariate Data &amp; Time Series</u></b> Draw a scatter graph. Understand the different types of correlation. Draw and use a line of best fit. Instruct and interpret a time series graph. Calculate and use a moving average.</p> <p><b><u>NP11 (2/3 weeks) Ratio</u></b> Ratio Notation Expressing Relationships as Ratios Simplifying Ratios Apply Ratios to Scale Drawings and Maps Converting between Fractions and Ratios</p>	<p><b><u>GM3 (2 weeks) Area</u></b> Calculating Area by Counting Squares Calculate the Area of Triangles, Quadrilaterals, Rectilinear Shapes, Circles and Compound Shapes Problem Solve involving Area</p> <p><b><u>NP11 (1/3 weeks) Ratio</u></b> Ratio Notation Expressing Relationships as Ratios Simplifying Ratios Apply Ratios to Scale Drawings and Maps Converting between Fractions and Ratios Finding the Value of Parts of a Ratio given other Parts or the Whole</p> <p><b><u>A5 (2 weeks) Formulae</u></b> Function Machines Inputs and Outputs Evaluating Expressions and Formulae by Substitution Writing Formulae in Words and Letters Generating Sequences from Formulae Rearranging Linear and Non-Linear Formulae including Powers and Roots</p> <p><b><u>A6 (4 weeks) The Cartesian Grid</u></b></p>

	<p>Using Percentage Multipliers to Calculate a Percentage of Amount Calculations and Estimations of Time with and without a Calculator Understanding Timetables</p> <p><b><u>A2 (2 weeks) Manipulating and Simplifying Expressions</u></b> Understanding Algebraic Notation Collecting Like Terms Simplifying Indices when Multiplying and Dividing Multiplication Rule for Indices (Power of a Power)</p>	<p>Writing more Complex Algebraic Expressions</p> <p><b><u>A4 (1/3 weeks) Linear Equations</u></b> Understanding Equality and Balancing Solving One and Two Step Equations (including Brackets) Solving Equations with an Unknown on Both Sides (including Brackets) Solving Simple Equations when the Unknown is the denominator Forming and Solving Equations</p>	<p>Converting between Units of Time, Length, Capacity and Mass Reading Scales in Context Percentage Increase and Decrease Finding a Percentage Change</p>	<p>Around a Point and Vertically Opposite Angles to Solve Problems</p>	<p>Finding the Value of Parts of a Ratio given other Parts or the Whole</p>	<p>Drawing an accurate Cartesian Grid Plotting and Identifying Co-ordinates Introduction to Two Dimensional Vectors Finding the Mid-Point of a Line Segment Expressing Number Relationships Algebraically</p>
Sequencing	<p>Due to closing the gaps in some areas we felt there was value in spending longer in some topics in year 7 therefore NP8 and NP9 were moved into the start of year 8. These follow on from topic areas taught in year 7.</p>	<p>A3 follows on and builds on the algebraic knowledge gained in A2 such as collecting like terms is used when expanding brackets.</p> <p>A4 follows on and builds on the algebraic knowledge gained in A3 as you will need to know how to expand and factorise brackets to solve equations.</p>		<p>GM2 follows on and builds on the knowledge gained in GM1 and A4. Algebraic equations and Angles knowledge are combined together to answer questions on angles.</p>	<p>GM3 follows on and builds on the knowledge gained in NP10 and GM2 as direct proportion is used when converting units of area and enlarging shapes/areas.</p> <p>NP11 follows and builds on the knowledge gained in GM2, GM3 and NP10 as ratio links to angles, enlargement of shapes and direct proportion.</p>	



Year 9						
Topic/Focus	<p><b><u>A7 (3 weeks) Sequences</u></b> Be able to find missing values in sequences. Know the 4 types of sequence. Find and use the nth term of a linear sequence. Relate sequences to graphs and real life</p> <p><b><u>A8 (3 Weeks) Linear Inequalities</u></b> Representing inequalities on a number line. Finding values that satisfy an inequality. Setting up inequalities in context. Solving inequalities. Representing regions on graphs.</p>	<p><b><u>NP12 (3 weeks) Standard Form</u></b> Writing numbers in standard form. Carrying out calculations in standard form. Understand SI prefixes in engineering form</p> <p><b><u>A9 (3 weeks) Real Life Graphs</u></b> Conversion graphs, real life graphs, distance time graphs, finding averages and introduction to velocity time graphs.</p>	<p><b><u>SP3 (4 weeks) Introduction to Probability</u></b> Know how to write a probability as a fraction, decimal, and percentage. Know that probability adds up to 1.</p> <p><b><u>A10 (2/4 weeks) Advanced Linear Graphs and Equations</u></b> Drawing algebraic graphs. Understanding that these are based on coordinates and how the lines are named. Plotting by calculating points. Understand how to calculate the gradient of a line. Know which part of the equation of the line is the gradient and which is the y intercept. Understand parallel and perpendicular lines.</p> <p>Solving simultaneous equations graphically, and by elimination.</p>	<p><b><u>A10 (2/4 weeks) Advanced Linear Graphs and Equations</u></b> Drawing algebraic graphs. Understanding that these are based on coordinates and how the lines are named. Plotting by calculating points. Understand how to calculate the gradient of a line. Know which part of the equation of the line is the gradient and which is the y intercept. Understand parallel and perpendicular lines.</p> <p>Solving simultaneous equations graphically, and by elimination.</p> <p><b><u>GM4 (3 weeks) Congruency and Similarity</u></b> Congruency, tessellation, transformations of shapes, similarity in shapes, conditions of congruent triangles</p>	<p><b><u>GM5 (3 weeks) Right-Angled Triangles</u></b> Calculate missing sides on triangles using Pythagoras Theorem.</p> <p><b><u>NP13 (2 weeks following on from SUM1) Advanced Proportion and Rates of Change Ratio problems</u></b> - combining ratios, finding parts, differences and wholes; mixing ratios with fractions (part/part and part/whole)</p> <p><b><u>GM6 (2 weeks) Circles</u></b> Learning the parts of the circle. Finding circumference of circles, perimeter of sectors, area of both circles and sectors. Answering questions in terms of pi. Identify and use circle theorems.</p>	<p><b><u>GM7 (2 weeks) Advanced Drawing, Measuring and Constructing</u></b> Calculate interior and exterior angles in regular polygons. Converting between 2D and 3D units of measurement. Naming Polyhedra. 2D representations of 3D objects. Planes of symmetry. Plans and elevations. Loci.</p>

Sequencing	Following on from A3/A4/A5 in year 8 on basic algebra, collecting terms and solving equations	Standard form naturally follows as a higher level of number calculations	<p>Pupils have studied coordinates in A6. Real life graphs starts to look at how to plot graphs of conversions.</p> <p>Basic statistical diagrams in year 8. This moves them from discrete data to bivariate data and finding probability.</p>	A6 follows on from the algebra taught in year 8. A10 builds upon A6	<p>GM5 follows on from GM1&amp;2 studied in year 7 and year 8 on naming 2D shapes and angles to a much more demanding topic of Pythagoras and trigonometry. this also builds on squares and roots.</p> <p>NP13 follows on from NP10 on proportion studied in year 8.</p> <p>GM6 continues the themes of shape from year 7 and year 8.</p>	GM7 follows on from basic construction of shapes from lengths and angles in GM1 moving from 2D into 3D drawing.
Extended Learning	Complete Maths Homework for revision and extension	Complete Maths Homework for revision and extension	Complete Maths Homework for revision and extension	Complete Maths Homework for revision and extension	Complete Maths Homework for revision and extension	Complete Maths Homework for revision and extension
Formal Assessment	Topic Tests to identify knowledge retained and inform retrieval starters for next term	Topic Tests to identify knowledge retained and inform retrieval starters for next term	Topic Tests to identify knowledge retained and inform retrieval starters for next term	Topic Tests to identify knowledge retained and inform retrieval starters for next term	Topic Tests to identify knowledge retained and inform retrieval starters for next term	Topic Tests to identify knowledge retained and inform retrieval starters for next term

The above grid shows the expected progression for pupils following the OAT curriculum. However, students will move through the curriculum at a rate that is appropriate for their learning.



Year 10						
Qualification	Edexcel GCSE Mathematics					
Topic	<p><b><u>Number (3 weeks) N1</u></b> <b>Foundation:</b> Place Value Square, Cubes &amp; Roots Laws of Indices Calculations with integers and decimals. Order of Operations Rounding- integer, decimal place and significant figure Estimation Multiples, LCM Factors, HCF Primes, Product of Primes Using Product of Primes to find HCF &amp; LCM</p> <p><b>Higher:</b> <u>Rounding-</u> integer, decimal place and significant figure Estimation <u>Primes, Product of Primes</u> Using Product of Primes to find HCF &amp; LCM <u>Laws of Indices</u> including negative and fractional indices <u>Standard Form-</u> Converting between</p>	<p><b><u>Algebra (2 weeks following on from AU1) A1 &amp; A2</u></b> <b>Foundation:</b> <u>Inequalities-</u> Using the correct notation for inequalities including composite inequalities and representing them on a number line. Writing the integers that satisfy composite inequalities. Solving Linear and Composite Inequalities including those with brackets and an unknown on both sides <u>Sequences-</u> Understanding the different types of sequences Generating sequences using the term to term rule and the Nth term. Extending sequences and finding missing numbers in the sequence Finding a position in the sequence using the Nth term rule</p>	<p><b><u>Data (3 weeks following on from AUT2) D1, D2 &amp; D3</u></b> <b>Foundation:</b> <u>Graphs-</u> Constructing and interpreting Line Graphs, Time Series graphs, Stem and Leaf Diagrams, Pie Charts and Scatter Graphs <u>Venn Diagrams-</u> Understanding the set notation of Venn Diagrams Constructing and interpreting Venn Diagrams <u>Tree Diagrams-</u> Constructing and interpreting Frequency and Probability Trees including independent and dependant Probability Trees</p> <p><b>Higher:</b> Constructing and Interpreting Cumulative Frequency Graphs, Box Plots, Frequency Polygons and Histograms. <u>Venn Diagrams-</u></p>	<p><b><u>Shape- Angles (3 weeks following on from SPR2) S1 &amp; S4</u></b> <b>Foundation:</b> Use Pythagoras Theorem to calculate missing sides Use Trigonometry to find missing sides and angles</p> <p><b>Higher:</b> Upper and Lower Bounds Sine, Cosine and Tangent Graphs Calculating area using the Sine and Cosine Rule 3D Pythagoras and Trigonometry Transformations of Trigonometric Graphs</p> <p><b><u>Algebra- Graphs A3</u></b> <b>Foundation:</b> Plotting and Interpreting Co-ordinates including finding the midpoint Drawing and Recognising Graphs of <math>y=n</math> and <math>x=n</math> Constructing Linear Graphs linking to <math>y=mx+c</math> rule. Calculating Gradient, Y-intercept and Equation of a Linear Graphs</p>	<p><b><u>Number- Fractions, Decimals, Percentages, Ratio and Proportion (6 weeks) N2 &amp; N3</u></b> <b>Foundation:</b> All operations with fractions Converting between Fractions, Decimals and Percentages <u>Percentages- including non-calculator and calculator methods</u> Finding Percentage of an Amount Increase and Decrease by a Percentage Calculating Percentage Change Calculating Simple and Compound Interest <u>Ratio &amp; Proportion-</u> Ratio Notation Simplifying Ratios Sharing an Amount into a Ratio Solving Problems with Ratios Using ratios to convert between units and enlargements Unitary method to solve proportion problems Best Value for Money</p>	<p><b><u>Shape- Perimeter, Area and Volume (6 weeks) S2 &amp; S6</u></b> <b>Foundation:</b> <u>Calculating Area and Perimeter of:</u> Triangle Rectangles Parallelograms Trapeziums Circles (Circumference) Sectors Compound Shapes <u>Volume:</u> Cube/Cuboid Prism Cone Sphere <u>Surface Area:</u> Cube/Cuboid Prism Pyramid Cone Sphere</p> <p>Converting between Metric Units</p> <p><b>Higher:</b> <u>Calculating Area and Perimeter of:</u> Triangle Rectangles Parallelograms</p>

<p>Standard Form and Original Numbers. Calculating in Standard Form Rational and Irrational Numbers <u>Surds</u>- Simplifying, Adding, Subtracting, Multiplying and Dividing Multiplying Surds with Brackets Rationalising the Denominator</p> <p><b><u>Algebra (4 weeks plus 2 weeks in AUT2) A1 &amp; A2</u></b> <b><u>Foundation:</u></b> Simplifying Algebraic Expressions Writing Expressions Index Laws with Algebra Difference between Expression, Equation, Formula and Identity Substitution Expanding Single Brackets including Adding or Subtracting them. Factorising Single Brackets Solving Equations including Equations with an Unknown on Both Sides and Brackets Form and Solve Equations</p>	<p>Calculating the Nth Term of and arithmetic sequence and using it to determine if a number is in the sequence</p> <p><b><u>Higher:</u></b> <b><u>Sequences-</u></b> Understanding the different types of sequences Generating sequences using the Nth term (linear and quadratic) Extending sequences and finding missing numbers in the sequence Finding a position in the sequence using the Nth term rule. Calculating the Nth Term of and arithmetic and quadratic sequences and using it to determine if a number is in the sequence Solve problems using Geometric sequences Using the Fibonacci sequence to work out other terms algebraically</p> <p><b><u>Data (5 weeks plus 3 weeks in SPR1) D1, D2 &amp; D3</u></b> <b><u>Foundation:</u></b></p>	<p>Understanding the set notation of Venn Diagrams Constructing and interpreting Venn Diagrams Using them to calculate probability <b><u>Tree Diagrams-</u></b> Constructing and interpreting Frequency and Probability Trees including Independent and Dependant Probability Trees Using them to calculate probability</p> <p><b><u>Shape- Angles (3 weeks plus 3 weeks in SPR2) S1 &amp; S4</u></b> <b><u>Foundation:</u></b> Properties of 2D shapes Calculate missing angles in triangles, quadrilaterals and on parallel lines Calculate and understand Interior and Exterior angles of regular and irregular polygons Use algebra to solve angle problems Use Pythagoras Theorem to calculate missing sides Use Trigonometry to find missing sides and angles</p>	<p>Construct and interpret Real Life Graphs including Distance-Time Graphs</p> <p><b><u>Higher:</u></b> Constructing Linear Graphs linking to <math>y=mx+c</math> rule including Quadratic, Cubic and Reciprocal Graphs Calculating Gradient, Y-intercept and Equation of a Linear Graphs and Parallel and Perpendicular Lines Construct and interpret Real Life Graphs including Distance-Time Graphs and Graphing Rates of Change Construct Graph of a Circle</p>	<p><b><u>Direct and Inverse Proportion-</u></b> Identify Graphs and Word Problems</p> <p><b><u>Higher:</u></b> All operations with fractions Recurring decimals to fractions Converting between Fractions, Decimals and Percentages <b><u>Percentages- including non-calculator and calculator methods</u></b> Finding Percentage of an Amount Increase and Decrease by a Percentage Reverse Percentages Calculating Percentage Change Calculating Simple and Compound Interest Growth and Decay Problems <b><u>Direct and Inverse Proportion-</u></b> Identify Graphs and Solve Word Problems Write and solve equations to solve proportion problems including square and cubic proportionality</p>	<p>Trapeziums Circles (Circumference) Sectors Compound Shapes <b><u>Volume:</u></b> Cube/Cuboid Prism Cone Sphere Frustrum <b><u>Surface Area:</u></b> Cube/Cuboid Prism Pyramid Cone Sphere</p> <p>Length of Arc</p> <p>Converting between Metric Units including Area and Volume</p> <p><b><u>Congruence:</u></b> Understand and Prove Congruence Congruence of Triangles</p> <p><b><u>Similarity:</u></b> Use Ratio to Work out Scale Factors Finding Missing Lengths on Similar Shapes Using the Link between Scale Factors for Length, Area and</p>
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	<p><b>Higher:</b> Index Laws with Algebra including Fractional and Negative Indices Expanding Single and Double Brackets including Adding or Subtracting them. Factorising Single and Double Brackets Solving Linear Equations including Equations with an Unknown on Both Sides and Brackets Solving Quadratic Equations by Factorising, Completing the Square and Using the Formula. Form and Solve Equations Solving Inequalities and Representing the Answer on a Number line including Composite Inequalities <u>Simultaneous Equations</u>- Solve Linear and Quadratic Simultaneous Equations including on a graph (graphs given) and algebraically Form and Solve Linear Simultaneous Equations</p>	<p>Converting a Tally Chart into a Frequency Table Calculating the mode, range, median and mean from a list, frequency table and a group frequency table. Comparing data using the mean, mode and range. <u>Sampling</u>- Understand the need for it and how random and stratified sampling works. <u>Probability</u>- Calculate probability from equally likely and mutually exclusive events including the probability of these events not happening Find the different and number of outcomes using a listing strategy, a sample space and two-way tables. Use these to find the probability of events happening. <u>Experimental Probability</u>- understand, interpret and work out expected results Construct and interpret composite and comparative bar charts</p>	<p><b>Higher:</b> Properties of Triangles Calculate and understand Interior and Exterior angles of regular and irregular polygons Use Pythagoras Theorem to calculate missing sides Use Trigonometry to find missing sides and angles</p>		<p>Recognise and sketch graphs of exponential functions <u>Non-Linear Graphs</u>- Calculate the gradient of the tangent at a point Estimate the area under a graph using area of a trapezium Translating graphs of functions including stretching and reflecting</p>	<p>Volume to Solve Problems</p>
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including histograms with equal class widths

**Higher:**

Calculating the mode, range, median and mean from a frequency table and a group frequency table.

Comparing data using the mean, mode and range.

**Sampling-**

Understand the need for it and how random and stratified sampling works.

**Probability-**

Calculate probability from equally likely and mutually exclusive events including the probability of these events not happening Find the different and number of outcomes using a listing strategy, a sample space and two-way tables. Use these to find the probability of events happening.

**Experimental**

**Probability-** understand, interpret and work out expected results

**Graphs-** Constructing and interpret Time

		Series Graphs, Stem and Leaf Diagrams, Pie Charts and Scatter Graphs				
Sequencing	<p>All maths is rooted in number so the start of the GCSE course begins with core number skills necessary to be successful in the exam.</p> <p>The topics from both units follow on from each other and this allows for more fluent teaching. Therefore, the pupils will have gained a deeper understanding of the topics. For example- Factorising quadratics leads onto solving quadratics by factorising. So linking these together allows pupils to see the links between the different areas of algebra.</p>	<p>The topics from all three units follow on from each other and this allows for more fluent teaching. Therefore, the pupils will have gained a deeper understanding of the topics. For example- in Table, Graph, and Diagram questions you will be asked to find the mode, median, range, mean and probability of events occurring. Therefore they need to learn about these before learning about the different tables, graphs and diagrams and be able to link these all together.</p>	<p>S4 follows on from S1. S4 builds on the shape knowledge learnt in the S1. This allows for more fluent teaching. Therefore, the pupils will have gained a deeper understanding of the topics.</p> <p>For example- in the higher unit they learn how to use sine, cosine and tangent with right angle triangles moving onto non right angle triangles in S4</p>		<p>The topics from both units follow on from each other and this allows for more fluent teaching. Therefore, the pupils will have gained a deeper understanding of the topics. For example- you use fractions, decimals and percentages in probability questions.</p>	<p>The topics from both units follow on from each other and this allows for more fluent teaching. Therefore, the pupils will have gained a deeper understanding of the topics. For example- pupils need to know how to find the area of a circle and sectors before finding the area of compound shapes.</p>
Extended Learning	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks linked to Topic Tests
Formal Assessment	Topic Tests using past paper questions	Topic Tests using past paper questions	Topic Tests using past paper questions	Topic Tests using past paper questions	Topic Tests using past paper questions. SUM1 Mock- Full exam series	Topic Tests using past paper questions

Year 11						
Qualification	Edexcel GCSE Mathematics					
Topic	<u>11X1- Higher Curriculum</u> Percentage challenge. Compound measure, speed distance and time. Laws of indices. Vectors and translations. Transformations (reflections, rotations, enlargements and describing). Direct and inverse proportion.  <u>11X2/11Y1- Crossover Curriculum</u> Product of Primes- HCF and LCM Estimation Upper and Lower Bounds Averages from tables Scatter Graphs Two Way Tables Frequency Trees Time Series Graphs Pie Charts Probability Trees Venn Diagrams  <u>11X3/11Y2</u> Standard Form Fractions- Simplifying	<u>11X1- Higher Curriculum</u> Loci. Properties of 3D shapes. Bearings. Scale Drawings. Symmetry. Constructions. Parallel lines. Circle Theorems.  <u>11X2/11Y1- Crossover Curriculum</u> Percentages Reverse Percentages Depreciation and Decay Fractions Ratio Index Laws Factorisation Forming and Solving Equations Inequalities Pythagoras Trigonometry including non-right angles triangles  <u>11X3/11Y2</u> Perimeter and Area of: Triangles Rectangles and Squares Parallelograms Trapeziums	Curriculum will be adapted according to results from November Mock to met the needs of individual classes.	Revision based on Mock Results and Mock Analysis Sheets	Revision based on Mock Results and Mock Analysis Sheets	

	Calculating with Fractions Converting between Fractions, Decimals and Percentages Percentages  <u>11X4/11Y3</u> Ordering and Comparing Positive and Negative Integers, Decimals and Fractions Calculations with Positive and Negative Integers, Decimals and Fractions Multiples and Factors Prime Numbers Rounding Percentage of an Amount Money problems	Transformations Vectors  <u>11X4/11Y3</u> Time Converting between units of time Working out Intervals in Time Timetables Perimeter and Area of: Squares Rectangles Compound Shapes Triangles Volume				
Sequencing	Year 11 follow a bespoke curriculum to capture the needs within the class	Year 11 follow a bespoke curriculum to capture the needs within the class	Year 11 follow a bespoke curriculum to capture the needs within the class	Year 11 follow a bespoke curriculum to capture the needs within the class	Year 11 follow a bespoke curriculum to capture the needs within the class	
Extended Learning	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks linked to Topic Tests	Complete Maths Homework and Revision tasks based on Mock results	Complete Maths Homework and Revision tasks based on Mock results	
Formal Assessment		November Mock- Full exam series		April Mock- Full exam series	May/June Formal GCSEs	
<b>Post Year 11</b>						
Further Education/training in:				Employment in: Anything and everything		