Maths Curriculum Grid						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
KS3 **3 year spiral curriculum** **Semi-formal curriculum highlighted in yellow**	**Number sense and place value** Identify the place value of a digit in any number through partitioning, estimating, rounding and comparing. Read and write numbers in words and numbers. **Addition and Subtraction** Develop mental arithmetic strategies to complete calculations mentally. Use formal column methods to add and subtract larger numbers. Recognise inverse operations and solve missing number problems. **Multiplication and Division** Multiply and divide by single-digit numbers. Multiply and divide by 10 and 100. **Fractions** Understand what a fraction represents. Count, compare and order fractions. Perform simple calculations with fractions using addition and subtraction. **Decimals**	**Number Patterns** Identify and extend number patterns, counting up and down. Identify the pattern rule. Generate patterns given a starting point and rule using the four operations. **Money** Recognise all British notes and coins and understand that their value is independent of their size and shape. Calculate with money using the four operations. Solve money problems in real-world contexts. **Time** Read and estimate time on analogue and digital clocks. Convert between different units of time. **Perimeter and Area** Understand that perimeter is the shortest distance around a shape and area is the size of a surface. Calculate the perimeter and area of squares, rectangles and more complex compound shapes.	**Function Machines** Calculate outputs from a given function. Use inverse operations to calculate the input. **Volume** Understand volume as the measure of space inside a 3D shape. Calculate the volume of cubes and cuboids. **Measures - length, mass and capacity** Identify metric measures of length, mass and capacity. Convert between metric measures. Calculate with metric measures in real-world contexts using the four operations. **Position and direction** Identify and plot coordinates on a coordinate grid. Record and describe simple translations across a coordinate grid. Plot and draw 2D shapes. **Statistics** Understand how data is recorded and displayed in different graphical	**Number sense and place value** Reinforce knowledge of place value and expand to include larger numbers and decimal notation. **Addition and Subtraction** Use formal methods to add larger numbers including decimal notation. Solve problems with addition and subtraction in real-world contexts. **Multiplication and Division** Use formal methods to multiply and divide larger numbers. Apply knowledge of multiplication to solve problems in real-world contexts. **Fractions** Find fractions of an amount. Understand and calculate with mixed numbers and improper fractions using the four operations. **Decimals** Calculate with more complex decimal notation using the four operations. Apply knowledge of	**Negative numbers** Count up and down across zero. Calculate with negative numbers using the four operations. Understand negative numbers in context. **Money** Reinforce knowledge of British money. Solve multi-step money problems in real-world contexts using the four operations. **Time** Sequence events in chronological order. Calculate elapsed time. Problem solve with time in real-world contexts.	**Algebra** Extend knowledge of algebra to use more complex notation. Solve algebraic problems with increasing difficulty. **Perimeter, area and volume** Calculate the perimeter, area and volume of 2D and 3D shapes with more complex measurements and decimal notation. **Measures - length, mass and capacity** Extend knowledge of metric measures of length, mass and capacity. Understand common imperial measurements. Solve multi-step problems with measures. **Probability** Describe the likelihood of an event occurring and understand that the probability of events can be subjective and contextual. Record the probability of an event occurring as a fraction or decimal. Recognise that the sum of probabilities for all outcomes is 1.

	Understand what a decimal represents and identify the value of a decimal in a number. Compare and order decimal numbers and round decimals to a degree of accuracy. Perform simple calculations with decimals using the four operations. **Geometry – properties of shapes** Identify basic 2D and 3D shapes and their associated properties. Understand and identify 3D shape nets.	**Ratio and proportion** Compare values and express them as a ratio of each other. Represent ratios as fractions. Use scale factors to complete scale diagrams. Solve ratio problems in context. **Fractions, decimals and percentages** Understand that percentage is expressed as a quantity out of 100. Convert between fraction, decimal and percentage equivalents. Calculate the percentage of an amount.	representations. Collect data and draw appropriate graphs. **Algebra** Understand and use algebraic notation to represent unknown quantities. Solve algebraic calculations using the four operations.	decimals to solve problems in real-world contexts.		**Position and direction** Extend knowledge of coordinates to include all four quadrants and negative numbers. **Statistics** Record, interpret and represent data in more complex graphical forms.
KS4 Pathway 1 Entry Level **2 year spiral curriculum**	**Component 1 - properties of number** Understand and use numbers. Identify place value within whole numbers. Understand odd and even and round to a degree of accuracy. **Component 1 Exam** **Component 2 - the four operations** Understand and use the four operations. Perform calculations using addition, subtraction, multiplication and division. **Component 2 Exam** **Component 3 - Ratio**	**Component 4 - Money** Understand and use money. Identify the value of coins in everyday use in the UK. Perform calculations with decimals in the context of money. **Component 4 exam** **Component 5 - Time** Understand and use 12 and 24-hour time and convert between both representations. Interpret calendars and timetables. Understand the days, weeks and months of the year. **Component 5 exam**	**Component 6 - Measures** Understand and use measures of length, mass and capacity in standard and non-standard units. Convert between units of length, mass and capacity. Read scales of measurement including temperature with negative values. **Component 6 exam** **Component 7 - Geometry** Understand shape, coordinates and directions. Identify 2D and 3D and their properties. Understand angles and identify angles in shapes. Investigate reflective	**Component 8 - Statistics** Understand and interpret statistical diagrams. Sort information according to a set criteria. Conduct surveys and analyse and communicate the results using appropriate representation. **Component 8 exam**	**Year 11 - Practical Maths lessons** **Money** Budgets, bank statements, buying items and finding change, planning events **Time** Reading and using bus timetables, organising time, calculating elapsed time **Measures** Following and measuring ingredients for recipes **Year 10 - Move on to GCSE Pathway or continue Entry level Certification**	

	Understand equality and basic fractions. **Component 3 Exam**		symmetry, nets of shapes and use of coordinates. **Component 7 exam**			
KS4 Pathway 2 **GCSE Maths Foundation** **2 year spiral curriculum**	**Decimal place value** Identify the place value of decimals up to three decimal places. Perform calculations with decimals using the four operations. **Directed Number** Perform calculations that cross zero. Calculate with negative numbers using the four operations. **Indices, roots and powers** Understand and calculate square and square roots, cube and cube roots. Calculate with positive and negative powers of 10. **Standard form** Convert numbers into standard form notation. Calculate with numbers in standard form. **Order of operations** Understand the order of operations and use BIDMAS to perform	**Algebra** Understand and use algebraic notation. Form and simplify expressions. Expand, simplify and factorise into a single bracket. Use substitution to calculate the value of an expression. Construct expressions to solve problems. Draw straight line graphs from linear expressions. **Geometry** Identifying and measuring different types of angles. Internal and external angles, angles around a point and vertically opposite angles.	**Geometry** 2D and 3D shape properties. Measuring angle bearings including using scales and maps. Calculating perimeter and area of compound shapes and volume of cuboids, prisms and cylinders. Working with circle properties. Completing transformations including translations, reflections, rotations and enlargements. **Year 11 mock exam**	**Money** Recognise the value of British currency. Perform calculations with money. Buy items and calculate change. Work out discounts on items. . Identify best buy options. **Time** Perform calculations involving time. Interpreting distance, speed and time graphs and distance and travel charts. **Probability** Describing the probability of an event occurring. Recording probability on a scale. Enumerating all possible outcomes. Presenting the possible outcomes of an event in sample space tables and tree diagrams.	**Year 11 exam preparation** **Statistics** Understand and interpret different forms of data. Display data in different graphical formats. Interpret and construct pie charts. Work with averages including the mean, mode median and range. **Ratio and proportion** Compare quantities and express them as a ratio of each other. Simplify ratios. Share a known quantity into a given ratio. Direct and inverse proportion.	**Year 10 revision and exam practise** **Year 11 exam preparation**

	calculations with the four operations, indices and directed number. **Factors, multiples and primes** Identify factors, highest common factor, multiples and lowest common multiple. Understand primer numbers and use prime factorisation to represent a number as the product of two primes. **Fractions, decimals and percentages** Calculate with fractions and decimals using the four operations. Convert between fraction, decimal and percentage equivalents. Calculate a percentage of an amount and percentage change.					