



## **Year 11 Curriculum Sequence**

### **Intent**

The Year 11 Mathematics curriculum is designed to support all students in achieving meaningful, recognised qualifications while developing the numerical fluency, problem-solving ability, and confidence needed for successful transition into post-16 education, training, or employment. Students will follow one of two purposeful pathways: GCSE Mathematics (OCR) or Functional Skills Mathematics at Level 1 or Level 2, selected to best match their individual strengths, needs, and future goals.

Both pathways are equally valued and provide a rigorous and appropriate level of challenge, ensuring that every student is supported to make progress and experience success. The curriculum is structured to promote engagement, deepen understanding, and build resilience in tackling mathematical problems. Students develop their knowledge across key areas including number, algebra, ratio and proportion, geometry, and statistics, applying these skills in both abstract and real-life contexts.

## Pathway 1: GCSE Maths (OCR)

Autumn HT1	Autumn HT2	Spring HT1	Spring HT2	Summer HT1	Summer HT2
Gradients & Lines & Graphs (Including non-linear)	Expanding & Factorising Changing the subject & Functions	Multiplicative Reasoning Geometric Reasoning	Algebraic Reasoning & Transforming & Constructing	Listing & Describing Show that...	Consolidation & Final Revision
<b>Intent:</b> Students develop understanding of gradient as rate of change and learn to sketch and interpret straight-line graphs, using parallel and perpendicular lines. They then extend this to recognising and sketching non-linear graphs (quadratic, cubic, exponential), using these to estimate values and interpret real-world contexts. This sequence builds from linear to more complex relationships, strengthening students' graphical reasoning, problem-solving, and confidence in applying mathematics.	<b>Intent:</b> Students develop fluency in expanding, factorising, and manipulating algebraic expressions, including quadratics. They learn to solve equations, interpret roots, and understand functions (including inverse and composite), building strong algebraic reasoning for problem-solving and further study.	<b>Intent:</b> Students develop multiplicative and geometric reasoning by applying ratio, proportion, and direct and inverse relationships, alongside using geometric properties and proofs. They build logical thinking, problem-solving, and mathematical communication, preparing for further study and real-world applications.	<b>Intent:</b> Students deepen algebraic reasoning through expressions, equations, and inequalities, applying these skills to problem-solving. They also explore geometric transformations and constructions, developing spatial awareness, precision, and logical thinking for further study and real-world applications.	<b>Intent:</b> Students develop understanding of probability, combinatorics, and data analysis using tree diagrams, Venn diagrams, and systematic strategies. They also strengthen logical reasoning and proof skills, preparing for higher-level mathematics and transferable critical thinking.	<b>Intent:</b> The intent of this topic is to consolidate and strengthen students' prior learning, enabling confident and accurate application of mathematical knowledge. Through targeted practice, students refine problem-solving skills, improve fluency, and develop effective exam techniques, ensuring readiness for assessments and future study.
<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of this unit.</p> <ul style="list-style-type: none"> <li>I can plot graphs from given data or equations.</li> <li>I can interpret graphs to understand trends and relationships.</li> <li>I can interpret the gradient of a straight line as a rate of change.</li> <li>I can use the equation <math>y = mx + c</math> to identify parallel lines.</li> <li>I can use the equation <math>y = mx + c</math> to identify perpendicular lines.</li> <li>I can find approximate solutions to two simultaneous equations using a graph.</li> <li>I can recognise and sketch graphs of linear, quadratic, cubic, reciprocal &amp; exponential functions.</li> <li>I can find approximate solutions to equations using graphs.</li> <li>I can recognise and use the equation of a circle with its centre at the origin.</li> </ul>	<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of this unit.</p> <ul style="list-style-type: none"> <li>I can state the difference between an equation and an identity.</li> <li>I can factorise &amp; solve quadratic expressions.</li> <li>I can deduce roots algebraically by completing the square.</li> <li>I can find turning points of a quadratic by completing the square.</li> <li>I can translate simple situations into algebraic expressions or formulae.</li> <li>I can derive an equation from a problem and solve it.</li> <li>I can interpret simple expressions as functions with inputs and outputs.</li> <li>I can interpret the reverse process of a function as the inverse function.</li> <li>I can interpret the succession of two functions as a composite function.</li> </ul>	<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of this unit.</p> <ul style="list-style-type: none"> <li>I can compare lengths, volumes and areas using ratios.</li> <li>I can compare lengths, areas and volumes using scale factors.</li> <li>I can construct equations to describe direct proportion &amp; inverse proportion.</li> <li>I can reason deductively in geometry, number and algebra.</li> <li>I can use geometrical constructions to support reasoning.</li> <li>I can apply standard circle theorems about angles, radii, tangents and chords.</li> <li>I can prove the standard circle theorems using geometrical reasoning.</li> </ul>	<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of this unit.</p> <ul style="list-style-type: none"> <li>I can deduce expressions for the <math>n</math>th term of linear sequences.</li> <li>I can solve linear inequalities in one variable.</li> <li>I can represent the solutions to inequalities on a number line.</li> <li>I can interpret and use fractional scale factors for enlargements.</li> <li>I can describe the effects of combinations of rotations, reflections and translations.</li> <li>I can sketch translations of the graph of a given function.</li> <li>I can sketch reflections of the graph of a given function.</li> </ul>	<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of this unit.</p> <ul style="list-style-type: none"> <li>I can calculate the probability of independent &amp; dependent combined events.</li> <li>I can use tree diagrams to calculate probabilities.</li> <li>I can use other representations to calculate probabilities.</li> <li>I can calculate conditional probabilities.</li> <li>I can use systematic listing strategies to count outcomes.</li> <li>I can use the product rule for counting.</li> <li>I can write clear mathematical explanations using "show that".</li> <li>I can communicate my reasoning clearly in any type of maths question.</li> </ul>	<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of this unit.</p> <ul style="list-style-type: none"> <li>I can confidently apply the maths skills I have learned across different topics.</li> <li>I can choose the right method to solve a range of problems.</li> <li>I can solve problems accurately and check my work effectively.</li> <li>I can explain my reasoning clearly using correct mathematical language.</li> <li>I can identify and learn from my mistakes to improve my answers.</li> <li>I can use strategies to tackle unfamiliar or multi-step problems.</li> <li>I can recall key knowledge and formulas when I need them.</li> <li>I can work efficiently within the time constraints of an exam</li> </ul>
<p><b>Feeds from:</b> The GCSE Mathematics course is designed to build understanding and confidence progressively from Year 10 to Year 11. In Year 10, students develop core mathematical knowledge and skills across number, algebra, geometry, and statistics, forming a strong foundation for more advanced problem-solving. In Year 11, these skills are refined and extended, with a greater focus on reasoning, multi-step problem solving, and applying mathematics in a range of contexts. The different strands of the course are closely linked, with fluency, reasoning, and problem-solving skills supporting success across all areas of the curriculum and in both calculator and non-calculator assessments.</p> <p><b>Feeds into:</b> A Mathematics GCSE qualification plays a key role in post 16 pathways (A Level, vocational, BTECs, apprenticeships or employment)</p>					

## Pathway 2: Functional Skills Maths (Pearson Edexcel)

A flexible, continuous modular programme designed to support *personalised* progression at Entry Level 3, Level 1, and Level 2. Students build and consolidate prior knowledge before moving to more abstract concepts, with a strong emphasis on applied, practical maths. The programme develops reasoning, problem-solving skills, and confidence through real-world contexts, enabling students to demonstrate understanding and mastery at each stage.

Entry Level 3	Level 1		Level 2	
<p><b>Intent:</b> At Entry Level 3, our intent is to strengthen foundational numeracy skills and develop confidence in everyday mathematics. We focus on practical applications, for example money, time and measure, plus basic calculations to provide a solid foundation for progression to Level 1.</p>	<p><b>Intent:</b> Develop learners' ability to use mathematics independently and accurately in real-life contexts. Focus on fluency, problem-solving, and multi-step functional tasks, bridging the gap to GCSE-level maths.</p>		<p><b>Intent:</b> At Level 2 Ensure learners can apply mathematics confidently, accurately, and independently in everyday, professional, and unfamiliar contexts. Focus on complex multi-step problems, interpreting data, and justifying decisions; prepares learners for employment, apprenticeships, or further study.</p>	
<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of the unit.</p> <ul style="list-style-type: none"> <li>• I can use numbers, including whole numbers, fractions, decimals and percentages.</li> <li>• I can estimate answers and check my work.</li> <li>• I can measure and use common units (length, width, capacity etc...)</li> <li>• I can read and interpret simple data from charts, tables and graphs.</li> <li>• I can solve practical maths problems in real-life situations.</li> </ul>	<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of the unit.</p> <ul style="list-style-type: none"> <li>• I can use ratio, proportion and percentages to solve problems.</li> <li>• I can apply my number skills to real-life financial situations.</li> <li>• I can read, interpret and compare information from charts, graphs and tables</li> <li>• I can calculate area, perimeter and volume of different shapes</li> <li>• I can explain my mathematical thinking clearly and show how I reached my answers.</li> </ul>		<p><b>Intended Skills and Outcomes:</b> The below 'I can' statements clarify what students will be able to do by the end of the unit.</p> <ul style="list-style-type: none"> <li>• I can solve problems including ratio, proportion and rates of exchange.</li> <li>• I can use algebra to solve problems in real-life contexts.</li> <li>• I can interpret and analyse data, including probability.</li> <li>• I can use mathematical reasoning to justify and explain my decisions.</li> <li>• I can apply my maths skills confidently in unfamiliar situations.</li> </ul>	
<p><b>Feeds from:</b> Functional Skills Entry Level 3 is offered in exceptional circumstances, where learners are unable to access the Functional Skills Level 1 curriculum, despite sustained intervention and high-quality teaching.</p>	<p><b>Feeds from</b> Functional maths across vocational subjects.</p> <p>GCSE Mathematics (Foundation) for suitable learners</p>	<p><b>Feeds into</b> Maths Functional Skills Level 2 or GCSE Maths (Foundation) or A Maths Functional Skills qualification plays a key role in post 16 pathways (A Level, vocational, BTECs, apprenticeships or employment)</p>	<p><b>Feeds from:</b> Functional Skills Level 1</p>	<p><b>Feeds into</b> A maths Functional Skills qualification plays a key role in post 16 pathways (A Level, vocational, BTECs, apprenticeships and employment)</p>