



THE Lodge AP

— At Sandbach House —

Year 9 Maths Curriculum Sequence

Intent

The Year 9 Mathematics curriculum is designed to re-engage students in learning while developing the numerical fluency, problem-solving skills, and confidence needed for their next stage of education. The curriculum supports students to progress towards one of two meaningful and appropriate pathways: GCSE Mathematics (OCR) or Functional Skills Mathematics at Level 1 or Level 2. Pathway decisions are made carefully to reflect each student's individual starting point, strengths, and aspirations.

Both pathways are equally valued and provide a suitable level of challenge and support, ensuring that all students can experience achievement and make sustained progress. Learning is structured to build confidence, resilience, and independence, with a strong emphasis on practical application and real-life relevance.

Students develop their understanding across key mathematical areas including number, algebra, ratio and proportion, geometry, and statistics. Opportunities are provided to apply these skills in everyday contexts such as budgeting, measuring, interpreting information, and problem-solving situations they may encounter beyond school. The curriculum aims not only to strengthen mathematical knowledge but also to support students in becoming more confident learners who are prepared for further education, employment, and adult life.

Year 9 Maths Curriculum Sequence

Autumn HT1	Autumn HT2	Spring HT1	Spring HT2	Summer HT1	Summer HT2
Straight line graphs Forming & solving equations	Testing conjectures /Three-dimensional shapes Constructions & congruency	Numbers Using percentages Math's & money	Deduction Rotation & translation	Pythagoras' theorem Enlargement & similarity	Solving ratio & proportion problems/rates Probability Algebraic representation
Intent: Students develop understanding of linear relationships by moving from substitution and sketching to recognising and interpreting equations in the form $y=mx+cy = mx + cy=mx+c$. They explore gradient and intercept, applying these to real-life contexts and using graphs to estimate, predict, and interpret data—building a foundation for more advanced graph work. They also build on prior knowledge of equations to form and solve multi-step linear equations, including those with brackets and unknowns on both sides, and begin rearranging formulae. These skills strengthen algebraic reasoning and prepare students for more complex methods such as simultaneous equations.	Intent: This unit develops mathematical reasoning as students make and test conjectures across number, algebra, and geometry, justifying their ideas using clear arguments. They extend their understanding of shape through 3D solids, calculating surface area and volume and applying these in real-world contexts, while building spatial awareness from prior work on 2D shapes. Students also develop precision in geometric constructions, including bisecting lines and angles, constructing triangles, and understanding congruency. These skills support logical problem-solving and provide a strong foundation for higher-level mathematics, with links to real-world applications in design and engineering.	Intent: This unit reinforces fluency in number, including HCF and LCM, directed numbers, and standard form. Students build confidence working with integers, decimals, fractions, and powers, developing accuracy with both large and small values to support algebra and real-world problem-solving. Students also extend their understanding of percentages, applying them to percentage change, original values, and financial contexts such as interest. This develops key financial literacy skills while providing a strong foundation for further study.	Intent: Students develop logical reasoning by using angle rules and parallel line properties to deduce unknown values and construct clear mathematical arguments, preparing for more advanced geometric proof. They also build on transformations, accurately performing and describing rotations and translations, recognising invariant properties, and applying these in coordinate geometry. This supports problem-solving in graphical and spatial contexts, with links to real-world applications in design, computing, and physics.	Intent: Students apply Pythagoras' Theorem to solve problems in 2D and 3D, linking their understanding to coordinate geometry and real-world contexts such as maps and navigation, and preparing for trigonometry. They also develop proportional reasoning through similarity and enlargement, including fractional and negative scale factors. These skills support applications in areas such as scale drawing and design, and provide a foundation for further work in ratio, trigonometry, and geometric problem-solving.	Intent: This unit develops proportional reasoning through real-life problems involving best buys, direct and inverse proportion, and compound measures such as speed and density, supporting practical application across a range of contexts. Students also refine their understanding of probability using tree diagrams, Venn diagrams, and algebraic methods, including conditional probability. This strengthens their ability to analyse data, interpret risk, and make informed decisions in real-world situations.
Intended Skills and Outcomes: The below 'I can' statements clarify what students will be able to do by the end of this unit. <ul style="list-style-type: none"> I can recognise graphs of linear functions. I can recognise graphs of quadratic functions. I can sketch graphs of linear & quadratic functions. I can use linear graphs to estimate values I can solve linear equations in one variable using algebraic methods. I can use standard mathematical formulae. I can change the subject of a formula. 	Intended Skills and Outcomes: The below 'I can' statements clarify what students will be able to do by the end of this unit. <ul style="list-style-type: none"> I can begin to reason deductively in geometry, number and algebra. I can derive formulae to calculate perimeter. I can derive formulae to calculate area of triangles & parallelograms. I can calculate the volume of cuboids & prisms. I can apply perimeter, area and volume formulae to solve problems. I can interpret scale drawings. I can describe geometrical shapes using correct mathematical vocabulary. I can sketch points and lines accurately. I can identify and draw parallel lines. I can identify and draw perpendicular lines. I can recognise and draw right angles. I can recognise and draw regular (and others) polygons. 	Intended Skills and Outcomes: The below 'I can' statements clarify what students will be able to do by the end of this unit. <ul style="list-style-type: none"> I can use the four operations (add, subtract, multiply, divide) with integers. I can use the four operations with decimals. I can use the four operations with proper & improper fractions, and mixed numbers. I can work with both positive and negative numbers. I can interpret & compare numbers written in standard form. I can use fractions & percentages as operators. I can solve problems involving percentage change. I can solve problems involving percentage increase and decrease. I can find original values after percentage change. I can solve problems involving simple interest. I can use my knowledge of formulae to interpret and solve financial maths problems. 	Intended Skills and Outcomes: The below 'I can' statements clarify what students will be able to do by the end of this unit. <ul style="list-style-type: none"> I can use the fact that angles around a point add up to 360° and angles on a straight line add up to 180°. I can identify and use vertically opposite angles. I can understand the relationship between parallel lines and alternate & corresponding angles. I can identify the properties of translations, rotations and reflections. I can identify the properties of reflections. I can describe the result of translations, rotations and reflections on shapes. 	Intended Skills and Outcomes: The below 'I can' statements clarify what students will be able to do by the end of this unit. <ul style="list-style-type: none"> I can use Pythagoras' Theorem to find missing sides in right-angled triangles. I can interpret mathematical relationships algebraically & geometrically. I can construct similar shapes by enlargement. I can use scale factors to enlarge or reduce shapes. I can use scale diagrams and maps to solve problems. I can understand that a multiplicative relationship between two quantities can be expressed as a ratio. I can express multiplicative relationships as fractions. 	Intended Skills and Outcomes: The below 'I can' statements clarify what students will be able to do by the end of this unit. <ul style="list-style-type: none"> I can divide a quantity into two parts using part or whole ratios. I can express the division of a quantity as a ratio or fraction. I can use compound units such as speed to solve problems. I can use compound units such as unit pricing to solve problems. I can convert between related standard units. I can enumerate sets systematically. I can find unions and intersections of sets using tables, grids or Venn diagrams. I can use quadratic graphs to estimate values of y for given x. I can understand and use the concepts and vocabulary of expressions, equations & inequalities. I can understand and use the concepts and vocabulary of terms and factors.
<p>Feeds from: We recognise that students come to us with varying educational experiences. At the start of year 9, we dedicate time to establishing a baseline for each student and implementing the necessary interventions and support.</p> <p>Feeds into: These schemes of learning are carefully sequenced to develop core mathematical fluency, reasoning, and problem-solving across topics including number, algebra, geometry, and probability. Students build confidence in forming and solving equations, interpreting graphs, working with ratio, proportion, and percentages, and applying mathematics to real-life contexts such as money. Geometric understanding is strengthened through work on shapes, transformations, constructions, and Pythagoras' theorem, while opportunities to test conjectures and make deductions support deeper reasoning. Together, these units provide a strong foundation for Year 10, where students follow either a GCSE or Functional Skills pathway, enabling them to apply their skills in ways that best support their progress and future learning.</p>					

