

Maths at GHES



Our intent is to deliver an ambitious, coherent mathematics curriculum that enables all students—regardless of starting point or background—to achieve highly and develop a deep, connected understanding of mathematics. The curriculum is carefully sequenced so that knowledge builds cumulatively over time, allowing students to secure firm foundations in number, algebra, geometry, ratio, probability, and statistics.

We aim to ensure that students become fluent in the fundamentals of mathematics through intelligent practice that progressively develops conceptual understanding and accurate recall. Alongside fluency, we prioritise mathematical reasoning so that students can make connections, explain their thinking clearly using precise mathematical vocabulary, and evaluate the methods and strategies they use. Problem-solving is embedded throughout the curriculum so that students can apply their knowledge to unfamiliar contexts with confidence and resilience.

Our curriculum is designed to be inclusive and to close gaps in learning. We proactively identify misconceptions, provide timely intervention, and adapt teaching so that all students—including those with SEND—can access the same high-quality curriculum and achieve meaningful progress.

We want students to appreciate the relevance and power of mathematics, developing positive attitudes and the confidence to tackle challenges independently. Ultimately, our intent is to prepare every student for successful next steps—whether in further study, employment, or everyday life—by equipping them with secure mathematical knowledge, strong problem-solving skills, and the self-belief needed to use them.

To realise our curriculum intent, we implement a well-structured, carefully sequenced programme of study that enables students to build secure and connected mathematical knowledge over time.

Curriculum Design and Sequencing

- The curriculum is mapped from Year 7 to Year 11 to ensure progression, retrieval, and cumulative understanding.
- Units are sequenced so that new content builds on prior knowledge, allowing students to make meaningful connections across number, algebra, geometry, ratio, statistics, and probability.
- Schemes of learning highlight prerequisite knowledge, common misconceptions, key vocabulary, and opportunities for reasoning and problem-solving.

Teaching Approaches

- Teachers model concepts using a balance of concrete, pictorial, and abstract representations where appropriate to support deep understanding.

- Explanations are precise and emphasise mathematical vocabulary to develop students' ability to communicate their reasoning.
- Worked examples and guided practice are used to scaffold learning before students move on to independent problem-solving.
- Misconceptions are anticipated and addressed explicitly within lessons.

Fluency, Reasoning, and Problem-Solving

- Fluency is developed through varied and purposeful practice rather than rote repetition.
- Reasoning tasks are embedded in every topic, requiring students to justify, generalise, and evaluate methods.
- Problem-solving opportunities support students to apply knowledge to unfamiliar and rich contexts, encouraging resilience and independence.

Assessment and Feedback

- Formative assessment is used routinely through questioning and retrieval tasks to check understanding and inform next steps.
- Feedback is timely and focused, enabling students to correct errors, close gaps, and strengthen their understanding.

Support and Adaptation

- Teaching is adapted so that all students—including those with SEND—can access the full curriculum.
- Intervention is targeted and timely, based on diagnostic information rather than broad assumptions.
- Scaffolds are used when needed, and gradually removed as students become more secure, promoting independence.

Use of Technology and Resources

- A variety of digital tools are used to help all learning.
- Teachers draw on a variety of departmental resources to ensure personalisation and are adapted when necessary to reduce cognitive load.

Professional Development

- Teachers engage in ongoing professional learning, including collaborative planning, subject-knowledge development, and regular review of research-informed practice.
- Department meetings prioritise curriculum refinement and monitoring of student progress.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 7	-Analysing and displaying data -Number skills	-Expressions, functions and formulae -Decimals and measures	-Fractions and percentages -Probability	-Ratio and proportion -Lines and angles	-Lines and angles	-Sequences and graphs
Year 8	-Number -Area and volume	-Statistics, graphs and charts -Expressions and equations	-Real-life graphs -Decimals and ratio	-Lines and angles	-Calculating with fractions Straight-line graphs	-Percentages, decimals and fractions
Year 9	-Indices and standard form -Expressions and formulae	-Dealing with data -Multiplicative reasoning	-Constructions -Sequences, inequalities, equations and proportion	-Circles, Pythagoras and prisms	-Graphs -Probability	-Comparing shapes
Year 10	Foundation -Number -Algebra -Graphs, tables and charts Higher -Number -Algebra -Interpreting and representing data	Foundation -Fractions and percentages -Equations, inequalities and sequences Higher -Fractions, ratio and percentages -Angles and trigonometry	Foundation -Angles -Averages and range -Perimeter, area and volume Higher -Graphs -Area and volume -Transformations and constructions	Foundation -Graphs -Transformations Higher -Equations and inequalities -Probability	Foundation -Ratio and proportion -Right-angled triangles -Probability Higher -Multiplicative reasoning -Similarity and congruence -More trigonometry	Foundation -Multiplicative reasoning -Constructions, loci and bearings Higher -Further statistics -Equations and graphs
Year 11	Foundation -Quadratic equations and graphs -Perimeter, area and volume 2 -Fractions, indices and standard form Higher -Circle theorems -More algebra	Foundation -Congruence, similarity and vectors -More algebra Higher -Vectors and geometric proof -Proportion and graphs	Foundation -Revision Higher -Revision	Foundation -Revision Higher -Revision	Foundation Higher	Foundation Higher

Maths

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
1st Half-term	Basic Number Arithmetic / Written methods Sense of Number Place Value Number line (Positive values) Rounding Properties of 2D Shape Vocabulary and Notation Special focus: Triangles Fractions, Decimals and Percentages Number line (0 to 1) Representations FDP Conversions Equivalence and Ordering Fractions of amounts	Calculating with Decimals Four operations In context area calculations Negative integers Temperature changes Adding and Subtracting Basic Algebra Notation and vocabulary Building expressions using Algebra Tiles In context perimeter Averages and Spread Types of data Averages from lists	Developing Algebra Multiplying and Dividing with negative numbers Substitution Function machines Forming and Solving Equations In context Area / Angles Measures Metric Units Unit conversions Direct Proportion Compound units Sequences Probability In context choosing shapes with given properties	Basic Number Arithmetic / Written methods Sense of Number Place Value Number line (Positive values) Rounding Properties of 2D Shape Vocabulary and Notation Special focus: Triangles Fractions, Decimals and Percentages Number line (0 to 1) Representations FDP Conversions Equivalence and Ordering Fractions of amounts	Calculating with Decimals Four operations In context area calculations Negative integers Temperature changes Adding and Subtracting Basic Algebra Notation and vocabulary Building expressions using Algebra Tiles In context perimeter Averages and Spread Types of data Averages from lists	Developing Algebra Multiplying and Dividing with negative numbers Substitution Function machines Forming and Solving Equations In context Area / Angles Measures Metric Units Unit conversions Direct Proportion Scale drawing Exploring Indices through Pythagoras' Theorem
2nd Half-term	Types of Number Squares, Cubes and Roots Factors, Multiples and Primes Fractions Equivalence and Simplifying Four operations Ratio Fractions to Ratios Equivalence and Simplifying Sharing in ratio Perimeter and Area Special focus: Quadrilaterals	Percentage Calculations Percentages of amounts (Proportional reasoning) Express as a percentage Percentage change Angles Angle notation and vocab. Basic angle facts Angles in triangles and quads Representing data Bar charts Pictograms Pie charts	Coordinates and Linear Graphs Link to sequences Properties of 2D Shape Triangles, Quadrilaterals, Regular and Irregular Polygons Constructing triangles Symmetry and Transformations Reflection, Rotation and Translation	Types of Number Squares, Cubes and Roots Factors, Multiples and Primes Fractions Equivalence and Simplifying Four operations Ratio Fractions to Ratios Equivalence and Simplifying Sharing in ratio Perimeter and Area	Percentage Calculations Percentages of amounts (Proportional reasoning) Express as a percentage Percentage change Angles Angle notation and vocab. Basic angle facts Angles in triangles and quads Representing data Bar charts Pictograms Pie charts	Sequences and Coordinates Real-life graphs Conversion graphs Distance time graphs Speed time graphs 3D solids Vocabulary Isometric drawing Plans and elevations