

Maths

“The essence of math is not to make simple things complicated, but to make complicated things simple”

Mathematics is a creative and highly inter-connected subject that has been developed over centuries, providing the solution to some of history’s most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

In year 9 students continue to master the key skills required at Key Stage 3, consolidating their knowledge of topics already met at middle school and mastering new ones. Students will begin to meet some of the topics required at GCSE developing their problem solving strategies, which is an essential part of the curriculum, both at Key Stage 3 and Key Stage 4.

At the end of Key Stage 4 students will take the AQA Mathematics GCSE Exam. The focus of Year 10 and 11 is ensuring all our students have the mathematical knowledge and strategies to achieve their best possible grade possible at GCSE.

The Maths Department has developed a rigorous revision programme that encompasses both retrieval practice and problem solving skills to prepare our students for their final exam.

Throughout their time at Wolgarston students will be assessed in Mathematics every three weeks following either Pathway A or Pathway B, which are detailed below. After each assessment students will be given feedback and resources that allow them to take the next steps to improve their understanding. Checks are regularly made to ensure students are following the correct pathway.

Equipment

In order to be fully equipped for maths lessons students will require black pen, pencil, eraser, 30 cm clear ruler, 360-degree protractor, a pair of compasses and a scientific calculator (recommended calculator is Casio Classwiz fx-83GT X which is available from school).

Our KS3 curriculum

Pathway A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 9	<p>Shape and Space, Number</p> <p>Angles, bearings, Basic number, fractions, factors and multiples</p> <p>KA1 and 2</p>	<p>Algebra, Shape and Data, Number</p> <p>Expressions, Sequences, solving equations, sequences, co-ordinates and linear graphs, decimals and rounding , data collection</p> <p>KA 3 and 4</p>	<p>Algebra and Shape</p> <p>Perimeter and Area including circles, equations, algebraic graphs and inequalities</p> <p>KA 5 and 6</p>	<p>Probability, Ratio and Proportion</p> <p>Basic probability, frequency trees, Ratio, unitary proportion, best buys</p> <p>KA7</p>	<p>Data and Number</p> <p>Scatter graphs, percentages, Standard Form, Indices, metric measure</p> <p>KA8 and 9</p>	<p>Shape</p> <p>3D shapes, congruency and similarity, Pythagoras and Basic Trig</p> <p>End of Year Assessment</p> <p>KA10</p>

Pathway B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 9	<p>Shape and Space, Number</p> <p>Angles, bearings, Basic number, fractions and decimals, basic percentages, factors and multiples</p> <p>KA1 and 2</p>	<p>Algebra, and Data,</p> <p>Basic algebra review solving equations including simultaneous equations, averages, data representation including cumulative frequency and histograms</p> <p>KA 3 and 4</p>	<p>Algebra and Shape</p> <p>Perimeter and Area including circles, volume, equations, quadratics, rearranging formula, identities, sequences</p> <p>KA 5 and 6</p>	<p>Data Ratio and Proportion, metric measure</p> <p>Scatter graphs, Ratio, unitary proportion, best buys, direct and indirect proportion, percentages, metric measure, accuracy of measurement</p> <p>KA7</p>	<p>Shape and Number</p> <p>Congruency and similarity, 3D shapes, construction and loci, shapes, Standard Form, Indices, Surds</p> <p>KA8 and 9</p>	<p>Shape</p> <p>3D shapes, Pythagoras and Basic Trig Properties Polygons</p> <p>End of Year Assessment</p> <p>KA10</p>

Our KS4 curriculum

Pathway A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	<p>Number Review Algebra Review</p> <p>KA1 and 2</p>	<p>Review of shape</p> <p>Data Scatter graphs, averages</p> <p>KA3 and 4</p>	<p>Shape and Algebra</p> <p>Pythagoras Theorem and Trigonometry Solving quadratics, sketching graphs, real life graphs</p> <p>KA5 and 6</p>	<p>Shape</p> <p>Vectors, constructions and loci, properties of polygons</p> <p>KA7</p>	<p>Algebra and Ratio and Proportion</p> <p>Quadratic graphs, simultaneous equations, Growth and Decay, Direct and indirect proportion</p> <p>KA8 and 9</p>	<p>Shape and Data</p> <p>Transformation, Probability</p> <p>END OF YEAR EXAM</p> <p>KA10</p>
Year 11	<p>Probability Probability and venn diagrams</p> <p>Review of Number and Algebra,</p> <p>KA1 and 2</p>	<p>Review of Shape Revision</p> <p>Mock Exam 1</p>	<p>Revision Programme</p>	<p>Revision Programme</p> <p>Mock Exam 2</p>	<p>Revision Programme</p> <p>GCSE Exam Paper 1 non- calculator</p>	<p>GCSE Exam Paper 2 calculator Paper 3 calculator</p>

Pathway B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	<p>Number Review Algebra Review</p> <p>KA1 and 2</p>	<p>Review of shape</p> <p>Algebra Sketching graphs, transformation of functions, further equations and graphs, real life graphs</p> <p>KA3 and 4</p>	<p>Shape and Algebra</p> <p>Pythagoras Theorem and Further Trigonometry Algebraic fractions, equation of a circle, quadratics and advanced algebra</p> <p>KA5 and 6</p>	<p>Ratio and Proportion</p> <p>Calculating percentages, growth and decay, direct and inverse proportion</p> <p>KA7</p>	<p>Shape, ratio and proportion, algebra</p> <p>Circle Theorems, Vectors Gradient and rates of change, area under a curve, numerical methods, further equations and graphs</p> <p>KA8 and 9</p>	<p>Shape Transformation , volume</p> <p>END OF YEAR EXAM</p> <p>KA10</p>
Year 11	<p>Probability Probability and venn diagrams</p> <p>Review of Number and Algebra,</p> <p>KA1 and 2</p>	<p>Review of Shape Revision Mock Exam 1</p>	<p>Revision Programme</p>	<p>Revision Programme Mock Exam 2</p>	<p>Revision Programme GCSE Exam Paper 1 non-calculator</p>	<p>GCSE Exam Paper 2 calculator Paper 3 calculator</p>