MATHEMATICS

2025 – 2026

THE GRANGE SCHOOL

Mathematics – Year 7

Key Learning Objectives	• Students should consolidate and increase their mathematical knowledge from Key Stage 2. • Students will make links across different areas of mathematics to deepen their understanding. • Students will be able to recognise and interpret multiple representations of mathematical concepts and use precise mathematical vocabulary. • Student should build skills related to mathematical reasoning and problem solving.
Curriculum Content:	
Autumn term 1st Half	• Sequences • Algebraic Notation
Autumn term 2nd Half	• Equality and Equivalence • Place Value
Spring term 1st Half	• Fractions, Decimals and Percentages • Addition and Subtraction inc. Perimeter
Spring term 2nd Half	• Multiplication and Division inc. Area • Fractions and Percentages of Amounts
Summer term 1st Half	• Directed Numbers
Summer term 2nd Half	• Addition and Subtraction of Fractions
Assessments	• End of term assessments. Individual Question Level Analysis sheets are completed for every student. Copies are sent home so students can use Sparx Maths to close skills gaps. • Small assessments will be carried out at the end of most units of work • All assessments are teacher marked.
Homework Structure	Homework will be set weekly via the online platform Sparx Mathematics. Homework tasks will include recall of current topics in the classroom; consolidation of previous topics; and, times table practice.
School-based enrichment opportunities	• Opportunity to participate in the UK Maths challenge
Resources available for home-based study	Students have online access to Sparx Mathematics, which may also be used as a teaching/revision resource. The Maths department also share useful consolidation/revision websites with students and parents throughout the course.

Mathematics – Year 8

Key Learning Objectives	• Students should consolidate and increase their mathematical knowledge from Key Stage 2 and Y7. • Students will make links across different areas of mathematics to deepen their understanding. • Students will be able to recognise and interpret multiple representations of mathematical concepts and use precise mathematical vocabulary. • Student should build skills related to mathematical reasoning and problem solving.
Curriculum Content:	
Autumn Term 1st Half	• Geometric Reasoning • Sets and Probability
Autumn Term 2nd Half	• Prime Numbers and Proof • Ratio and Scale
Spring Term 1st Half	• Multiplicative Change • Multiplication and Division of Fractions
Spring Term 2nd Half	• Working in the Cartesian Plane • Representing Data • Tables and Probability
Summer Term 1st Half	• Brackets, Equations and Inequalities • Sequences
Summer Term 2nd Half	• Indices • Fractions and Percentages • Standard Form
Assessments	• End of term assessments. Individual Question Level Analysis sheets are completed for every student. Copies are sent home so students can use Sparx Maths to close skills gaps. • Small assessments will be carried out at the end of most units of work • All assessments are teacher marked.
Homework Structure	Homework will be set weekly via the online platform Sparx Mathematics. Homework tasks will include recall of current topics in the classroom; consolidation of previous topics; and times table practice.
School-based enrichment opportunities	• Opportunity to participate in the UK Maths challenge.
Resources available for home-based study	Students have online access to Sparx Mathematics, which may also be used as a teaching/revision resource. The Maths department also share useful consolidation/revision websites with students and parents throughout the course.

Mathematics – Year 9

Key Learning Objectives	For the final year of KS3, all students are grouped into five classes depending upon their prior attainment in mathematics. All classes focus on: • improving and extending the students mathematical understanding across five attainment strands - Number; Algebra; Geometry and Measures; Ratio, Proportion and Rates of change; Statistics and Probability. • improving skills which are needed within using & applying mathematics, functional mathematics and problem solving. More details can be obtained from the class teachers.
Curriculum Content – YEAR 9	
Autumn Term (September – December)	Number sense Angles in parallel lines and polygons Area of trapezia and circles Line symmetry & reflection Data handling
Spring Term (January - April)	Measures of location Straight line graphs Forming & solving equations Three-dimensional shapes Constructions & congruency Using percentages
Summer Term (May - July)	Rotation & translation Pythagoras' theorem Enlargement & similarity Ratio & proportion Rates Probability Algebraic representations
Assessments	• End of term assessments. Individual Question Level Analysis sheets are completed for every student. Copies are sent home so students can use Sparx Maths to close skills gaps. • Small assessments will be carried out at the end of most units of work • All assessments are teacher marked.
Homework / independent study	Homework will be set weekly via the online platform Sparx Mathematics. Homework tasks will include recall of current topics in the classroom; consolidation of previous topics; and, times table practice.
School-based enrichment opportunities	• Opportunity to participate in the UK Maths challenge.
Resources available for home-based study	Students have online access to Sparx Mathematics, which may also be used as a teaching/revision resource. The Maths department also share useful consolidation/revision websites with students and parents throughout the course.

Mathematics - GCSE

Course Details	**Exam Board: Edexcel** **Level: GCSE** **Examination Structure:** The Maths GCSE is 100% exam based. There is a non-calculator paper and two calculator papers, each 1 ½ hours in duration, which students will sit in May/June of Year 11.	
Key Learning Objectives	All students are grouped into five classes depending upon their prior attainment in mathematics. The content they cover depends upon the class that they are in. Currently, sets 1, 2 and 3 follow the Higher Tier course and sets 4a and 4b follow the Foundation Tier course. All classes focus on: • Improving and extending the students' mathematical understanding across five attainment strands - Number; Algebra; Geometry and Measures; Ratio, Proportion, and Rates of change; Statistics and Probability. • Improving skills which are needed within using and applying mathematics, functional mathematics, and problem solving. • More details can be obtained from the class teachers.	
Curriculum Content – YEAR 10		
Autumn Term (September – December)	Percentages Surface area and volume Linear simultaneous equations Formulae Trigonometry Constructions *End of term assessment*	
Spring Term (January – April)	Linear graphs Real-life graphs Set notation & Tree Diagrams Compound measures Ratio Graphs *End of term assessment*	
Summer Term (May - July)	Sequences Handling data Proportion Transformations Rounding Indices Recurring decimals (Higher Only) Brackets Statistical Diagrams *Y10 Mock Examinations*	
Curriculum Content – YEAR 11		
Autumn Term (September – December)	**Foundation Tier** Factors, Multiples and Primes Fractions Expressions Equations Angles Right-angled triangles Surface are and volume	**Higher Tier** Surds Algebraic fractions Equations Pythagoras' theorem and trigonometry Circle Geometry Statistical diagrams *Y11 Mock Examinations*

	Statistical diagrams *Y11 Mock Examinations*	
Spring Term (January - May)	**Foundation Tier** Probability Inequalities Vectors Percentages Compound measures Ratio and Proportion Standard form Sequences Linear graphs *Y11 Mock Examinations 2*	**Higher Tier** Probability Inequalities Functions Transformations Iteration Algebraic proof Similarity Geometric proof Graphs *Y11 Mock Examinations 2*
Assessments	• Y10 End of term assessments (December and March) • Mock examinations in June of Year 10, November/December and March of Year 11. All these assessments are teacher marked. Individual Question Level Analysis sheets are completed for every student. Copies are sent home so students can use Sparx Maths to close skills gaps.	
Homework / independent study	Homework will be set weekly via the online platform Sparx Maths. Homework tasks will include recall of current topics in the classroom; and, consolidation of previous topics.	
School-based enrichment opportunities	• Y10 Opportunity to participate in the UK Maths Challenge • Y10 Opportunity to participate in Maths Feast Y11 After School Revision Sessions from January onwards	
Resources available for home-based study	Students have online access to Independent Learning in Sparx Maths as well as the opportunity to purchase a Collins Edexcel GCSE 'All in One Revision and Practice' guide through school. (Higher tier ISBN 978-0-00-811036-9; Foundation tier ISBN 978-0-00-811249-3) Useful consolidation/revision websites include: **www.mathsgenie.co.uk** Revision notes and You Tube video explanations of all GCSE topics by grade. Exam questions and model answers are organised by topics and as full exam papers. **www.onmaths.com** Past papers, online exam practice, revision by topic. Make sure you choose Edexcel as the exam board. **www.corbettmaths.com** Past papers, videos and worksheets. **www.bbc.com/education/examspecs/z9p3mnb** This takes you to the Edexcel GCSE maths part of the site. **www.khanacademy.org** You Tube videos and practice for almost any maths topic. **www.mrbartonmaths.com** Past papers, videos and quizzes. **www.mathsmadeeasy.co.uk/gcse-maths-revision** Past papers, online exam practice, revision by topic.	

Mathematics – A-Level

Course Details	**Exam Board:** Edexcel **Level:** A-Level **Examination Structure:** • Paper 1: Pure Mathematics 1 • Paper 2: Pure Mathematics 2 • Paper 3: Statistics and Mechanics **Each paper is:** • 2-hour written examination • 33.33% of the qualification • 100 marks **Course Content:** • ***Pure:*** These modules provide the techniques in Algebra, Geometry, Trigonometry and Calculus that form the fundamental skills needed in the subject. • ***Mechanics:*** This module develops skills and knowledge of Kinematics, Vectors, Quantities and units in Mechanics, Forces, Newton's Laws, and Moments. • ***Statistics:*** This module gives you the skills to analyse and represent data in its many forms including probability, data handling and testing hypotheses. **Coursework/Controlled Assessment:** There is no coursework element to this qualification.
Key Learning Objectives	• Select and carry out routine procedures, recalling facts, terminology and definitions. • Construct arguments, make deductions and inferences, and explain your reasoning. • Solve problems in mathematical contexts, interpret solutions in context, and evaluate the accuracy of the solution; use and evaluate the solutions from the use of mathematical models and evaluate the use and limitations of these models.
Curriculum Content – Year 12	
Autumn Term (September – December)	Algebraic Expression Quadratics Equations & Inequalities Graphs & Transformations Probability Straight Line Graphs Circles Algebraic Methods Modelling in Mechanics
Spring Term (January - April)	Binomial Expansions Distributions Constant Acceleration Trigonometric Ratios Trigonometric Identities & Equations Vectors Forces & Motions Differentiation Exponentials & Logarithms
Summer Term (June - July)	Variable Acceleration Integration Data Handling Radians *Revision for Y12 mocks*

Curriculum Content – Year 13	
Autumn Term (September – December)	Algebraic Methods Functions and graphs Trigonometric Functions Trigonometry and modelling Forces and Friction Sequences and Series Binomial Expansion Differentiation Correlation Integration Distributions - Normal
Spring Term (January - May)	Integration Vectors Parametric Equations Application of Forces Numerical Methods Moments Projectiles Further Kinematics *Revision*
Assessments	**End of Topic Assessments:** students will be assessed on new content at the end of each unit of work. **Summative Assessments:** students will periodically sit summative assessments which will cover all topics studied so far and consist of exam questions. These will include the Y12 and Y13 mock examinations. All assessments are teacher marked.
Homework / independent study	Homework will be set each week covering the topics learnt in class; homework focuses on students applying the skills they learn in class, and students are expected to use a variety of resources to help them on the more complex questions. Students are encouraged to download past papers (and marks schemes) from https://www.mathsgenie.co.uk/alevelpapers.php
Equipment required	A graphical calculator is required for the course; this should be purchased after taking advice from the Mathematics teacher. In addition, students will be expected to purchase the course textbooks: **Year 1:** • **Pearson Edexcel AS and A level Mathematics Pure Mathematics Year 1/AS Textbook + e-book** IBSN: 978-1292183398 • **Edexcel AS and A level Mathematics Statistics & Mechanics Year 1/AS Textbook + e-book** IBSN: 978-1292232536 **Year 2:** • **Pearson Edexcel A level Mathematics Pure Mathematics Year 2 Textbook + e-book** IBSN: 978-1292183404 • **Pearson Edexcel A level Mathematics Statistics & Mechanics Year 2 Textbook + e-book** IBSN: 978-1292207827

School-based enrichment opportunities	Senior UK Maths Challenge.
Resources available for home-based study	https://www.mathsgenie.co.uk/alevelpapers.php https://www.draustinmaths.com/a-level https://www.physicsandmathstutor.com/maths-revision/a-level-edexcel/