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| *What will they be learning, why and in what order?* |
| **Maths Year 11** | **Term 1** | **Term 2** | **Term 3** |
| **Bridge/ Foundation knowledge required** | Cartesian Plane Year 8Sequences Year 7Straight Line Graphs Year 9Indices and routes Year 10Indices Year 8Decimals Years 4-6Indices Year 8Solving Problems with Multiplication and Division Year 7Standard Index Form Year 8Place Value Year 6Multiplication and Division Year 6Converting Units Years 5 and 6Straight Line Graphs Year 9Cartesian Plane Year 8Manipulating expressions Year 10Brackets, equations and inequalities Year 8Operations and equations with directed number Year 7Algebra Year 6Understand and use algebraic notation Year 7Algebra Year 6Understand and use algebraic notation Year 7Manipulating expressions Year 10Brackets, equations and inequalities Year 8Forming and solving equations Year 9Algebraic notation Year 7Pythagoras’ theorem Year 9Multiplication and Division Year 3-6Indices and routes Year 10Indices Year 8 | Multiplicative Change Year 8Solving Problems with Multiplication and Division Year 7Developing number sense Year 7Number sense Year 8Addition and Subtraction Years 2-6Multiplication and Division Years 2-6Place Value Year 5Angles and bearings Year 10Deduction Year 9Angles in parallel lines and polygons Year 8Properties of shape Year 5 and 6Position and Direction Year 6Constructing, measuring and using geometric notation Year 7Algebra Year 6Understand and use algebraic notation Year 7Forming and solving equations Year 9Testing conjectures Year 9Multiplication and Division Year 4 and 5Place Value Years 4-6Position and direction Years 4-6Working in the cartesian plane Year 8Rotation and translation Year 9Solve problems with multiplication and division Year 7Multiplication and Division Year 4 and 5Properties of shape Years 5 and 6Enlargement and similarity Year 9Properties of Shape Year 6Constructing, measuring and using geometric notation Year 7Constructions and congruency Year 9Statistics Years 2-6Sets and probability Year 7Tables and probability Year 8Probability Year 9Probability Year 10Review Blocks:Multiplicative Reasoning Year 11Geometric Reasoning Year 11Algebraic Reasoning Year 11 | EXAM PERIOD |
| **Key Learning Experience / Skills** | Gradients and linesNon-linear graphsUsing graphsExpanding and factorisingChanging the subjectFunctions | Multiplicative reasoningGeometric reasoningAlgebraic reasoningTransforming and constructingListing and describingShow that |  |
| **Assessment**How will you assess the impact of teaching? | Demonstrate, Consolidate and Extend Green tickets Book Inserts Low stakes assessment | Demonstrate, Consolidate and Extend Green tickets Book Inserts Low stakes assessment |  |
| **CIAG Links** | Gradients and Lines: Key in engineering, architecture, and design for calculating slopes and angles in construction and planning.Non-linear Graphs: Used in data science, economics, and biology to model complex systems like population growth or market trends.Using Graphs: Important in finance, business, and research for visualizing data, spotting trends, and making informed decisions.Expanding and Factorising: Crucial in software development and cryptography for simplifying and solving complex equations.Changing the Subject: Essential in physics, chemistry, and engineering for rearranging formulas to solve for unknown variables.Functions: Central to computing, electronics, and economics for modelling relationships and predicting outcomes. | Multiplicative Reasoning: Essential in finance and economics for understanding proportions, percentages, and growth rates in business and budgeting.Geometric Reasoning: Key in architecture, engineering, and art for designing structures, spaces, and objects using spatial awareness and shapes.Algebraic Reasoning: Important in fields like computer science and physics for solving problems and modelling real-world systems with equations.Transforming and Constructing: Crucial in design, animation, and engineering for manipulating shapes and structures in 2D and 3D spaces.Listing and Describing: Used in logic, computer programming, and decision-making processes to organize, categorize, and plan systematically.Show That: Vital in fields like mathematics, law, and science for proving concepts, theories, or hypotheses with logical reasoning and evidence. |  |
| **British Values**  | Democracy: Students vote on which graph type to use for a data presentation.Respect: Students listen to and respect different methods for solving equations.Tolerance: Lessons include mathematical contributions from diverse cultures.Liberty: Students choose their preferred method for solving problems.Rule of Law: Clear rules, like angle laws, are followed in geometry proofs. |
| **Cross Curricular Link Numeracy** | Science: Analyse complex scientific data sets.Geography: Dive deep into spatial analysis.History: Perform advanced historical data analysis.Design and Technology: Manage complex projects with limited resources.English: Use numeracy for critical analysis and essay writing.Art and Design: Explore intricate numerical patterns in artistic compositions.PE: Apply advanced numeracy skills for sports performance analysis. | **Cross Curricular Link- Literacy** | Writing clear, structured explanations for solving complex mathematical problems.Using advanced mathematical language in extended essays and reports.Interpreting and critically evaluating data in texts, articles, and case studies.Constructing logical, well-supported arguments in both written and spoken formats.Summarizing and explaining mathematical trends and findings in written reports.  |
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| ***The Hub Vision – A School that provides all students with exciting opportunities that build confidence, develop social skills and promote academic achievement*** |

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