THE BULWELL ACADEMY

Key Stage 4 Curriculum Information

KS4 MATHS LEAD:
gina.goldsmith@bulwellacademy.org.uk

Year 10 Foundation Maths Curriculum

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	**Securing Number, Numerical Representations and Ratio**		**Ratio, Probability and Equations and Inequalities**		**Standard Form, Functions and Graphs, Proportion and Rates of Change**	
Knowledge Covered	**Securing number** • Four rules • Power Notation • Roots • Types of number • HCF and LCM • Rounding and truncation • Error interval	**Numerical Representations** • Working with fractions • Percentages • Percentage increase and • Multipliers • Reverse percentages • Interest **Ratio** • Simplifying a ratio • Sharing into a ratio	**Ratio** • Ratio with fractions • Ratio problems **Probability** • Single and combined events • Venn Diagrams • Sample space • Two-way tables • Set notation • Tree diagrams • Expected outcomes • Relative Frequency	**Equations and Inequalities** • Collecting like terms • Expand and simplify brackets • Factorise • Substitution • Solving linear equations • Simultaneous equations • Solving inequalities • Solving double inequalities	**Standard Form** • Converting Standard Form • Calculating with Standard Form **Functions and graphs** • Coordinates • $y=mx+c$ • Equation between 2 points • Different types of graphs • Solving quadratics using graphs • Distance time graphs	**Proportion and rate of change** • Scale factors and maps • Converting units • Direct proportion • Inverse Proportion • Growth and decay
Online Resources	Sparx Maths BBC bitesize					

MATHS

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Year 10 Higher Maths Curriculum

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Numerical Representations, Ratio and Proportion and Probability		Probability, Expressions, Equations and Inequalities and Numerical Powers		Functions and Graphs, Shape and Measure, Analysing Data	
Knowledge Covered	**Numerical representations** • Operations with Fractions, Decimals and Percentages • Recurring Decimals • Prime factorisation • HCF and LCM • Product Rule • Bounds **Ratio and Proportion** • Linking fractions, ratio and proportion • Simplifying Ratio • Sharing Ratio • Solving Problems with Ratio	**Ratio and Proportion** • Using Proportion • Creating direct proportion equations • Creating inverse proportion equations • Graphs of proportion **Probability** • Basic probability • Tree diagrams • Venn Diagrams • Relative frequency	**Probability** • Two-way Tables • Conditional Probability • Independent events **Expressions, equations and inequalities** • Expressions and Identities • Manipulating expressions • Factorising • Solving quadratics	**Expressions, equations and inequalities** • Solving Inequalities • Simultaneous Equations **Numerical Powers** • Index Laws • Writing Standard Form • Calculating with Standard Form • Simplifying Surds • Calculating with Surds	**Functions and graphs** • Function notation • Inverse Functions • Composite Functions • Proof • Straight line graphs • Parallel and perpendicular lines • Tangents and Circles • Inequalities regions **Shape and Measure** • Plans and elevations • Pythagoras • Trigonometry	**Shape and Measure** • Complex Trigonometry • Perimeter and Area • Volume and Surface Area • Similarity • Congruence **Analysing data** • Averages from frequency tables • Averages from grouped frequency tables • Use averages and measures of spread to describe and compare data sets
Online Resources	Sparx Maths BBC bitesize					

MATHS

Year 11 Foundation Maths Curriculum

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Ratio and Proportion, Probability, Data, Shape and Measure, Standard Form		Sequences, Transformations, Constructions	Address gaps in subject knowledge as evidenced by MOCKs		
Knowledge Covered	**Ratio and Proportion** • Simplifying Ratio • Sharing ratio • Ratio and Fractions **Probability** • Single and combined events • Two-way Tables • Tree Diagrams • Venn Diagrams **Data** • Averages from lists • Averages from tables **Shape and Measure** • Perimeter of 2D shapes • Area of 2D shapes • Volume	**Shape and Measure** • Surface Area • Plans and Elevations • Pythagoras • Trigonometry **Data** • Scatter graphs • Bar charts • Pictograms • Pie charts **Standard Form** • Converting Standard Form • Calculating Standard Form	**Sequences** • Generating Sequences • Nth Term • Special Sequences **Transformations** • Translation • Reflection • Rotation • Enlargement • Describing transformations **Constructions** • Constructing Triangles • Bisecting lines and angles • Loci			
Online Resources	Sparx Maths BBC bitesize					

MATHS

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Year 11 Higher Maths Curriculum

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Numerical Representations, Ratio and Proportion and Probability		Probability, Expressions, Equations and Inequalities and Numerical Powers	Address gaps in subject knowledge as evidenced by MOCKs		
Knowledge Covered	**Numerical representations** • Percentages • Simplify Surds • Calculate with Surds **Shape and Measure** • Calculate area • Calculate Surface Area • Calculate Volume **Data** • Scatter graphs • Averages from tables • Cumulative Frequency • Box Plots • Histograms	**Standard Form** • Convert Standard Form • Calculate Standard Form • Index Laws **Ratio and Proportion** • Unitary Ratio • Fractions, decimals, percentages, Ratio • Using Scales **Graphs** • Types of Graph • Transforming Graphs	**Shape and Space** • Trigonometry • Vectors **Graphs** • Velocity graphs • Instantaneous Rate of Change • Acceleration **Proportion** • Using Proportion • Creating proportion equations • Graphs of proportion **Iteration** • Iteration			
Online Resources	Sparx Maths BBC bitesize					

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