Curriculum Overview – Maths

Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 7	Algebra thinking 1. Sequences 2. Understand and use algebraic notation 3. Equality and equivalence	Place value 4. Place value ordering integers and decimals 5. Fraction decimal and percentage equivalence	Applications 6. Solving problems with addition and subtraction 7. Solving problems with multiplication and division	Directed Numbers Fractional Thinking 8. Fractions and percentages of amounts 9. Operations and equations with directed numbers 10. Addition and subtraction of fractions	Lines and Angles 11. Constructing, measuring and using geometric notation 12. Developing geometric reasoning	Reasoning with Number 13. Developing numbers sense 14. Sets and probability 15. Prime numbers and proof
Skills	Interpret, substitute and use formulae Solve problems and generate answers Recognise, find and generate terms	Fluency & Reasoning Equivalence and simplifying Solve problems and generate answers	Fluency & Reasoning Understand equivalence and convert. Approximation, rounding and estimating	Fluency & Reasoning Equivalence and simplifying	Draw and interpret Apply, understand and use angle properties. Use a protractor.	Record and generate responses Record and understand outcomes
PD/T&E	Financial Numeracy: How can I pay for things?	How can I use a bank account?	How do I plan a simple budget?	What are the links between jobs and money?	How can I keep my money safe?	How do I understand information about money from around the world?
Futures	Thinking ahead, GCSE, A-Level, Degree courses	Business Enterprise Accountant	Graphic Design Cryptologist	Computer Science Project Management	Engineer Architect	Statistician Financial Analyst

Curriculum Overview – Maths

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Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 8	Proportional reasoning 16. Ratio and scale 17. Multiplicative change 18. Multiplying and dividing fractions	Representations 19. Working in the cartesian plane 20. Representing data	Algebraic techniques 21. Tables and probability 22. Brackets, equations and inequalities 23. Sequences	Developing Number 24. Indices 25. Fractions and percentages 26. Standard index form	Developing Geometry 27. Number sense 28. Angles in parallel lines and polygons	Reasoning with Data 29. Area of trapezia and circles 30. Line symmetry and reflection 31. The data handling cycle 32. Measures of location
Skills	Express, relate and solve problems involving ratio	Record and generate theoretical responses Interpret and explain graph Working with data and tables	Solve problems and generate answers List integers, plot and interpret inequalities	Understand equivalence and convert. Describe, interpret and compare	Apply, understand and use angle properties. Use a protractor Use formulae, solve problems and link to real life situations Draw and interpret	Describe, interpret and compare Record and generate theoretical responses Interpret and explain graphs
PD/TE	Financial Numeracy: How can I pay for things?	How can I use a bank account?	How do I plan a simple budget?	What are the links between jobs and money?	How can I keep my money safe?	How do I understand information about money from around the world?
Futures	Thinking ahead, GCSE, A-Level, Degree courses	Actuarial analyst Engineer	Machine Learning engineer Insurance underwriter	Scientists Surveyors	Data Analyst Investment Analyst	Surveyor CAD Designer

Curriculum Overview – Maths

Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 9	Reasoning with Algebra 33. Straight line graphs 34. Forming and solving equations	Constructing in 2 and 3 Dimensions 35. Testing conjectures 36. Three-Dimensional shapes	Reasoning with number 37. Constructions and Congruency 38. Numbers	Reasoning with Number 39. Using percentages 40. Maths and Money 41. Deduction	Reasoning with Geometry 42. Rotation and Translation 43. Pythagoras' Theorem 44. Enlargement and Similarity	Reasoning with proportion Representations and Revision 45. Solving ratio and proportion problems 46. Rates 47. Probability 48. Algebraic representations
Skills	Describe, interpret and compare	Working with data and tables Identify and solve problems involving parallel lines and polygons Sketch, draw, identify and construct shapes	Express, relate and solve problems involving ratio Use formulae, solve problems and link to real life situations.	Application of facts and calculate answers using formula Interpret and explain data	Interpret graphs, find the gradient and equation of the line Draw and interpret graphs using transformations	Express, relate and solve problems involving ratio Use formulae, solve problems and link to real life situations.
PD/TE	Financial numeracy Credit & Debt	Frauds and Scams	Payslips and Deductions	Keeping in control	Consumer Rights	Fraud Scene Investigation
Futures	Thinking ahead, GCSE, A-Level, Degree courses	Statistician Architect	Astronomer Construction	Machine and Deep Learning Engineer CAD Designer	Risk Analysis Business Analyst	Project Manager Investment Analyst

Curriculum Overview – Maths

Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 10 SET 1 HIGHER Grade 5-9 topics	49. Constructions and Loci 50. Percentages 51. Measures and accuracy 52. Surds	53. Indices 54. Statistics 55, properties of Polygons 56. Constructions 57. Algebra vocabulary 58. Substitution and manipulation	59. Congruence and Similarity 60. Sequences 61. Pythagoras' theorem 62. Trigonometry SOHCAHTOA 63. Exact trig values 64. Probability	65. Probability 66. Simultaneous equations 67. Circle & volumes 68. Coordinates 69. Linear and Nonlinear graphs	70. Ratio 71. Setting and Forming equations 72. Transformations 73. Arc lengths and areas of Sectors 74. Functions 75. Similar triangles	76. Congruency rules 77. Rearranging equations 78. Graphs 79. Percentages, growth & decay 80. Iteration
Year 10 SET 2& 3 FOUNDATION Grade 1-5 topics	49. Calculating with percentages 50. Rounding, bounds, error intervals 51. Measures 52. Units of measures 53. Statistical measures	53. Standard form 54. Construction and Loci 55. Algebra: notation, vocabulary and manipulation 56. Sequences 57. Solving equations	58. Congruence and Similarity 59. Algebra-recap 60. Further perimeter and area 61. Areas of 2D shapes 62. Further circumference and area	63. Areas of complex shapes 64. Simultaneous equations 65. Angles and polygons 66. Graphs: linear, distance-time, velocity, quadratic	66. Graphs: gradients 67. Probability 68. Pythagoras' Theorem	69. Trigonometry 70. Area of 2D shapes 71. Volume of 3D shapes 72. Scale factors similar shapes 73. Plans and elevations 74. Scatter graphs, box plots, cum freq graphs 75. Transformations
Skills	Record and generate theoretical responses. Interpret graphs, find solutions and equations of the line.	Identify and solve problems involving parallel lines and polygons Sketch, draw, identify and construct shapes. Interpret graphs, find the gradient and equation of the lin	Use formulae, solve problems and link to real life situations. Draw and interpret graphs	Interpret and explain data. Application of facts and calculate answers using formulas. Draw and interpret graphs	Use formulae, solve problems and link to real life situations. Draw and interpret graphs using transformations	Application of facts and calculate answers using formula Working with data and tables Application of facts and calculate answers using formula Working with data and tables
PD/TE				Keeping in control	Consumer Rights	

	Financial numeracy Credit & Debt	Frauds and Scams	Payslips and Deductions			Fraud Scene Investigation
Futures	Thinking ahead, GCSE, A-Level, Degree courses	Cartographer Surveyor	Building Surveyor Scientist Actuarial Research	Navigation Officer RN Architectural Model Maker	Psephologist Medical Statistician Mathematical Modeller	Surveyor Cartographer Planning Engineer
Subject	**Unit 1**	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**	**Unit 6**
Year 11 **SET 1 HIGHER Grade 5-9 topics**	80a. Equations of a circle 81a. Trig graphs 82a. Transforming trig graphs 83a. Algebraic proof 84a. Rearranging formulae 85a. Direct & inverse proportion 86a. Vectors 87a. Vector proof 88a. Histograms	89a. Statistics - graphs, box plots, cf graphs, scatter graphs, freq polygons 90a. Gradients & rates of change 91a. Algebraic fractions 92a. Trigonometry - Sine & Cosine rules	93a. Circle theorems 94a. Proof (circle theorems) 95a. Inequalities - solving & regions on graphs 96a. Transforming functions 97a. Transforming trig graphs (recap) 98a. Estimating area under curves	99a. Fractions & ratios 100a. Number (recap) using Venn diagrams 101a. Systematic listing, product rule 102a. Estimation 103a. Bounds and error intervals 104a. Compound measures	105a. Probability (review) 106a. Geometry (review) 107a. Algebra (review) 108a. Number (review) **Revision & exam Preparation**	
SET 2 **Mostly FOUNDATION grade 3-5**	76. Algebra - simplifying, expanding, manipulation, rearranging formulae	81. Graphs - sketching and solutions 82. Algebra (recap)	86. Vectors 87. Circles and sectors	91. Number - Fractions, decimals & percentages 92. Systematic listing	97. Algebra (review) - equations & sequences 98. Geometry review	

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topics with some HIGHER Grade 6 topics	77. Functions 78. Statistics - scatter graphs & correlation 79. Trigonometry (recap) 80. Exact trig values	83. Proportion 84. Bearings & scale drawing 85. Percentages (recap)	88. Ratio 89. Probability 90. Number - Bidmas	93. Standard form 94. Fraction calculations 95. Estimation & rounding (error intervals) 96. Graphs	99. Number (review) 100. Statistics & probability (review) **Revision & exam preparation**	
SET 3 **FOUNDATION Grade 3-5 topics**	76. Algebra - simplifying, expanding, manipulation, rearranging formulae 77. Functions 78. Statistics - scatter graphs & correlation 79. Trigonometry (recap) 80. Exact trig values	81. Graphs - sketching and solutions 82. Algebra (recap) 83. Proportion 84. Bearings & scale drawing 85. Percentages (recap)	86. Vectors 87. Circles and sectors 88. Ratio 89. Probability 90. Number - Bidmas	91. Number - Fractions, decimals & percentages 92. Systematic listing 93. Standard form 94. Fraction calculations 95. Estimation & rounding (error intervals) 96. Graphs	97. Algebra (review) - equations & sequences 98. Geometry review 99. Number (review) 100. Statistics & probability (review) **Revision & exam preparation**	
Skills	Fluency & Reasoning Describe, interpret and compare Express, relate and solve problems involving ratio	Identify and solve problems involving parallel lines and polygons Sketch, draw, identify and construct shapes. Interpret graphs, find the gradient and equation of the line	Use formulae, solve problems and link to real life situations. Draw and interpret graphs using transformations	Application of facts and calculate answers using formula Working with data and tables		

Curriculum Overview – Maths

PD/TE	Financial numeracy How will my education and job choices affect my finances?	When might I need to borrow?	Planning for the unexpected	Understand financial risks and rewards	Where can I get financial guidance?	How do I choose financial products and services?
Futures	Thinking ahead, GCSE, A-Level, Degree courses	Mathematical Modeller Aerodynamicist Structural Engineer Stress Engineer	Rail Network Planner Ballistics Researcher Radar Systems Designer	Investment Banking Arbitrage Manager Credit Risk Modeller Underwriter		

Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 12	GCSE Recap Logarithms Quadratics Trigonometry Straight Line Geometry Differentiation Functions & Graphs	Integration Equation of a circle Logarithms Algebraic Division Binomial Theorem Trigonometry Vectors	Sequences (A2) Logarithms Differentiation Trigonometry (A2) Probability Data Handling Kinematics	Statistical Distributions Hypothesis Testing Kinematics Forces	Data Handling Data Collection Forces Variable Acceleration	Large Data Set Proof Projectiles (A2) Differentiation (A2) Sequences (A2) Trigonometry (A2) Integration (A2)
Year 13	Radian Functions Differentiation (A2) Partial Fractions Recursive Sequences Trigonometric Functions Trigonometry Angle Rules Hypothesis Testing Friction	Graph Transformations Integration Geometric Series Binomial Theorem Trigonometry Iteration Normal Distribution Moments	Integration Newton Raphson Implicit Differentiation Parametric Equations Differential Equations Integration Probability Distributions Vectors	Second Order Derivative Proofs (Trigonometry) Rates of Change Modelling Differential Equations Projectiles		
Skills	Fluency & Reasoning. Describe, interpret and compare. Use formulae, solve problems and link to real life situations.	Fluency & Reasoning. Describe, interpret and compare. Use formulae, solve problems and link to real life situations.	Fluency & Reasoning. Describe, interpret and compare. Use formulae, solve problems and link to real life situations.	Fluency & Reasoning. Describe, interpret and compare. Use formulae, solve problems and link to real life situations.	Fluency & Reasoning. Describe, interpret and compare. Use formulae, solve problems and link to real life situations.	Fluency & Reasoning. Describe, interpret and compare. Use formulae, solve problems and link to real life situations.

PD/TE	Financial numeracy How will my education and job choices affect my finances?	When might I need to borrow?	Planning for the unexpected	Understand financial risks and rewards	Where can I get financial guidance?	How do I choose financial products and services?
Futures	Thinking ahead, GCSE, A-Level, Degree courses	Chemical Process Engineering. Environmental Engineering	Insurance Underwriting	Civil/Structural Design Engineer	Nuclear Engineering Epidemiology	Pharmaceutical Statistics Modeller