

Curriculum Overview – Maths

Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 7	1. Number 1 2. Statistics 1a 3. Probability 1a	4. Fractions and Percentages 1a	5. Shape 1 6. Algebra 1	7. Sequences 1 8. Quadratics 1	9. Fractions 1b 10. Angles and Straight Lines 1 11. Graphs 1	12. Statistics 1b 13. Probability 1b 14. Conversion Graphs
Skills	Fluency & Reasoning Describe, interpret and compare Record and generate responses	Describe, interpret and compare Ordering and using concepts correctly Modify, interchange and problem solve	Sketch, draw, identify and construct Application of facts, link and interpret Interpret, substitute and use formulae	Solve problems and generate answers Recognise, find and generate terms Use and find solutions	Apply, understand and use properties Identify and illustrate Draw, sketch and derive solutions	Describe, interpret and compare Record and understand outcomes Convery, apply and calculate
PD/T&E	Personal safety statistics in the UK and globally	Division of groups to illustrate data in a user friendly format	Multicultural Britain, equality and diversity through famous Mathematicians. e.g. Alan Turing and Ada Lovelace	Cause and effect linked into real-life linear and non-linear graphs	Boundary commission, land area and population size. Government structure and how decisions are made	Use of Mathematics in careers and the skills that employers require
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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Year 8	15. Number 2a 16. Indices 1 17. Algebra 2 18. Number 2b & Standard Form 1	19. Ratio & Proportion 1 20. Linear Equations 1 21. Simultaneous Equations 22. Quadratic Equations 2	23. Sequences 2 24. Angles 2 and Bearings 1 25. Pythagoras & Trigonometry 1 22. Quadratics (Revision)	26. Fractions, Decimals & Percentages 2a 27. Algebraic Graphs 28. Real Graphs 1 29. Compound Measures 1	30. Probability 2 31. Statistics 2 32. Inequalities 1	33. Transformations 1 34. Constructions 35. Percentages 2b 36. Area & Volume 1
Skills	Fluency & Reasoning Interpret, substitute and use formulae Approximation, rounding and estimating	Equivalence and simplifying Solve problems and generate answers Drawing graphs, approximating and solving Expanding and factorising	Recognise, find and generate terms. Apply, understand and use angle properties. Use a protractor. Use formulae, solve problems and relate to real life situations. Factorise and solve problems.	Understand equivalence and convert. Complete tables and plot graphs. Calculate gradients Application to real life situations	Complete sample space diagrams and two-way tables. Record and generate theoretical responses Interpret and explain graphs List integers, plot and interpret inequalities	Draw and interpret Changing and using interest formula correctly Application of facts and calculate
PD/TE	Dangerous society statistics in the UK and globally.	Decision making	Using the golden ratio to understand the mathematical links with the human body	Use of Mathematics in careers and the skills that employers require.	Diversity, women's rights and equality using famous mathematicians.	Following rules.
Futures	Thinking ahead, GCSE, A-level, degree courses	Actuarial Analyst Engineer	Machine Learning Engineer	Scientists Surveyors	Data Analyst Investment Analyst	Surveyor CAD Designer

Curriculum Overview – Maths

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Year 9	37. Number 3 38. Indices 2 39. Standard Form 2 40. Surds 1 41. Fractions & Percentages 3	42. Statistics 3 43. Angles 3 44. Perimeter, Area & Volume 2a	45. Equations 2 46. Inequalities 2 47. Sequences 3 48. Pythagoras (recap)	49. Perimeter, Area & Volume 2b 50. Frequency Tables & Sampling 51. Box Plots & Cumulative Frequency	52. Simultaneous Equations & Algebraic Graphs 53. Real Graphs 2 54. Transformations 2	55. Ratio & Proportion 2 56. Compound Interest 57. Compound Measures 2 58. Pythagoras & Trigonometry 2
Skills	Fluency & reasoning 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	Finding mathematical links with the human body Explore proportions within the medical field, cause and effect modelling	RSE statistics in the UK and globally	RSE patterns in the UK and globally	Internet & drugs statistics in the UK and globally	Use of Mathematics in careers and the skills that employers require	Increase and decrease of extremism and terror, modelled using a geometric distribution

Curriculum Overview – Maths

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
Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 10	59. Probability 3 60. Percentages 4 61. Direct & Inverse Proportion	62. Constructions & Loci 63. Bearings 2 64. Quadratic Equations 3 & Graphs	65. Perimeter, Area & Volume 3 66. Indices 3 67. Standard Form 3 68. Surds 2	69. Similarity 1 70. Congruence 1 71. Vectors 1	72. Formulae & Functions 1 73. Graphs & Iteration 1 74. Types of Graphs 75. Statistics 4	76. Circle Theorems 1 77. Pythagoras & Trigonometry 3 78. Bounds 1 79. Inequalities 3
Skills	Record and generate theoretical responses Interpret and explain graphs	Factorise and solve problems Apply, understand and use angle properties. Use a protractor	Application of facts and calculate answers using formulas	Can recognise ratio and proportion in shapes Interpret and explain movement	Interpret graphs, find solutions and equation of the line	Interpret and explain data List integers, plot and interpret inequalities
PD/TE	Modelling of mental health events through the use of dependent probabilities and formulas	N/A	Use of Mathematics in careers and the skills that employers require	N/A	Understanding political graphs, the concepts of voting and swing Iterating answers to improve outcomes	Crime statistics in the UK and globally
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

Curriculum Overview – Maths

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Year 11 SET 1 HIGHER Grade 5-9 topics	80a. Percentages 5 81a. Standard Form 4 82a. Compound Measures 2 83a. Recurring decimals 84a. Indices (neg & fractional) 85a. Surds 3 86a. Exponential equations 87a. Sequences 88a. Sine & Cosine rules	89a. Equations 4 90a. Graphs and equations 5 91a. Solving quadratics 92a. Simultaneous equations 93a. Iteration 2 94a. Gradients/ parallel/ perp line equations & coordinate geometry 95a. Inequalities on graphs 96a. Algebraic fractions 97a. Functions 2	98a. Inequalities 4 99a. Perimeter, Area & Vol 4 100a. Similarity 2 101a. Pythagoras and Trigonometry 4 102a. Vectors & Proof 2	103a. Transformations 3 104a. Circle theorems 2 105a. Congruent triangles 2 106a. Constructions & Loci 2 107a. Bearings 3 108a. Probability 4 109a. Statistics 5	110a. V/T and D/T graphs 111a. Trigonometric graphs (and Transforming) 112a. Algebraic proof 113a. Proof- circle theorem Revision & exam preparation	
SET 2 Mostly FOUNDATION grade 3-5 topics with some HIGHER Grade 6 topics	80b. Number 4 81b. Percentages 5 82b. Estimation 83b. Ratio & proportion 3	88b. Linear sequences 89b. Algebra 3 90b. Equations 4 91b. Graphs and equations 5	93b. PAV 4 94b. Angles 4 95b. Circles 96b. Transformations 3	99b. Plans & elevations 100b. Pythagoras' and Trig 4 101b. Probability 4 102b. Statistics 5	103c. Number 5 Revision & exam preparation	

Curriculum Overview – Maths

	84b. Averages (from frequency tables)	92b. Simultaneous equations	97b. Constructions & Loci 2			
	85b. Standard form		98b. Bearings 3			
	86b. Compound measure					
	87b. Measures					
SET 3	80c. Number 4	88c. Linear sequences	93c. PAV 4	99c. Plans & elevations	Revision & exam preparation	
FOUNDATION Grade 3-5 topics	81c. Percentages 5	89c. Algebra 3	94c. Angles 4	100c. Pythagoras' and Trig 4		
	82c. Estimation	90c. Equations 4	95c. Circles	101c. Number 5		
	83c. Ratio & proportion 3	91c. Graphs and equations 5	96c. Transformations 3	102c. Probability 4		
	84c. Averages (from frequency tables)	92c. Simultaneous equations	97c. Constructions & Loci 2	103c. Statistics 5		
	85c. Standard form		98c. Bearings 3			
	86c. Compound measure					
	87c. Measures					

Curriculum Overview – Maths

Skills	<p>Fluency & Reasoning</p> <p>Describe, interpret and compare</p> <p>Express, relate and solve problems involving ratio</p>	<p>Identify and solve problems involving parallel lines and polygons</p> <p>Sketch, draw, identify and construct shapes</p> <p>Interpret graphs, find the gradient and equation of the line</p>	<p>Use formulae, solve problems and link to real life situations</p> <p>Draw and interpret graphs using transformations</p>	<p>Application of facts and calculate answers using formula</p> <p>Working with data and tables</p>		
PD/TE	<p>Crime statistics in the UK and globally</p>	<p>Use of Mathematics in careers and the skills that employers require</p>	<p>Finding mathematical links in the human body</p> <p>Explore proportions within the medical field, cause and effect modelling</p>	<p>RSE statistics in the UK and globally</p>		
Futures	<p>Thinking ahead, GCSE, A-level, degree courses</p>	<p>Mathematical Modeller</p> <p>Aerodynamicist</p> <p>Structural Engineer</p> <p>Stress Engineer</p>	<p>Rail Network Planner</p> <p>Ballistics Researcher</p> <p>Radar Systems Designer</p>	<p>Investment Banking</p> <p>Arbitrage Manager</p> <p>Credit Risk Modeller</p> <p>Underwriter</p>		

Curriculum Overview – Maths

Subject	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 12	Differentiation and straight-line graphs Modelling in mechanics Constant Acceleration	Algebraic Expressions Quadratic Functions Equations & Inequalities Forces & Motion	Straight line graphs Circles Binomial Expansion Measures of location and spread Standard Deviation Coding Box Plots cumulative frequency	Trigonometry ratios, identities & equations Vectors Histograms Probability Statistical Distributions	Integration Exponentials and logarithms Variable Acceleration Scatter diagrams	Exponentials and logarithms Algebraic methods - Algebraic and partial fractions Correlation and Hypothesis testing
Year 13	Functions and graphs Sequences and series Binomial expansion Moments Forces & Friction	Projectiles Applications of Forces Radians Trig Functions Trigonometry & modelling Parametric equations	Differentiation Numerical methods Integration Conditional Probability Regression and correlation Hypothesis testing	Integration - Trapezium rule and Parametric The normal distribution	Vectors The normal distribution Hypothesis testing Further Kinematics	
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	Drug statistics in the UK and globally	Use of Mathematics in careers and the skills that employers require	RSE statistics in the UK and globally	Finding mathematical links in the human body Drug statistics in the UK and globally	Use of Mathematics in careers and the skills that employers require	Use of Mathematics in careers and the skills that employers require

Curriculum Overview – Maths

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
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