



Subject Curriculum – Year 8 Delta

Big Ideas & Purpose

The aims of teaching and learning mathematics are to encourage and enable students to: recognise that mathematics permeates the world around us; appreciate the usefulness, power and beauty of mathematics and enjoy mathematics and develop patience and persistence when solving problems.

Programme of Study

HT1 Factors and powers Prime factor decomposition Laws of indices STEM: Powers of 10 Calculating and estimating Working with powers Simplifying expressions Expanding and simplifying Substituting and solving	HT2 2D shapes and 3D solids Plans and elevations Surface area of prisms Volume of prisms Circumference of a circle Area of a circle Cylinders Pythagoras' theorem Real life graphs Direct proportion FINANCE: Interpreting financial graphs Distance-time graphs Rates of change Misleading graphs	HT3 Transformations Reflection and translation Rotation Enlargement More enlargement STEM: Combining transformations 2D shapes and 3D solids Fractions, decimals and percentages Recurring decimals Using percentages Percentage change FINANCE: Repeated percentage change	HT4 Constructions and Loci Accurate drawings Constructing shapes Constructions 1 Constructions 2 Loci	HT5 Probability Comparing probabilities Mutually exclusive events Estimating probability Experimental probability Probability diagrams Tree diagrams Scale drawings and measures Maps and scales Bearings Scales and ratio Congruent and similar shapes Solving geometry problems	HT6 Graphs Plotting linear graphs The gradient $y = mx + c$ Parallel and perpendicular lines Inverse functions STEM: Non-linear graphs
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Key Assessments

- Assessments take place after every unit.
- Usually 2 per half term.
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- Year 8 will also take an end of year examination in the summer term.

Key Skills

- To provide opportunities for learner to demonstrate their knowledge of mathematics across a whole range of topic areas.
- To allow learners to develop their problem-solving strategies and provide the confidence and skills required to tackle unfamiliar challenges.

Links to Careers

- Mathematics teaches accuracy and precision in work. The analytical and problem-solving skills you learn are valuable in many different careers, for example Accountancy, Teaching, Business, Medicine, Architecture and Computer Studies.



Subject Curriculum – Year 8 Theta (middle)

Big Ideas & Purpose	The aims of teaching and learning mathematics are to encourage and enable students to: recognize that mathematics permeates the world around us; appreciate the usefulness, power and beauty of mathematics; enjoy mathematics and develop patience and persistence when solving problems in school and real-life and appreciate the international dimension of mathematics and its multicultural and historical perspectives.					
Programme of Study	HT1 Number Calculations Powers and roots Powers, roots and brackets Multiples and factors Area and volume Area of a triangle Area of a parallelogram and trapezium Volume of cubes and cuboids 3D shapes Surface area of cubes and cuboids Problems and measures	HT2 Statistics, graphs and charts Pie charts Using tables Stem and leaf diagrams Comparing data Scatter graphs FINANCE: Misleading graphs Expressions and equations Algebraic powers Expressions and brackets Factorising expressions One-step equations Two-step equations The balancing method	HT3 Decimals and ratio Ordering decimals and rounding Place-value calculations Calculations with decimals Ratio and proportion with decimals STEM: Using ratios Lines and angles Quadrilaterals Alternate angles and proof Geometrical problems Exterior and interior angles Solving geometric problems	HT4 Calculating with fractions Adding and subtracting fractions Multiplying fractions Fractions, decimals and reciprocals Dividing fractions Calculating with mixed numbers Percentages, decimals and fractions Fractions and decimals Equivalent proportions Writing percentages Percentages of amounts FINANCE: Solving problems	HT5 Real-life graphs Conversion graphs Distance-time graphs Line graphs Complex line graphs STEM: Graphs of functions More real-life graphs	HT6 Straight-line graphs Direct proportion on graphs Gradients Equations of straight lines STEM: Direct proportion problems
Key Assessments	<ul style="list-style-type: none">Assessments take place after every unit.Usually 2 per half term.		<ul style="list-style-type: none">Assessments take place after every unit.Usually 2 per half term.		<ul style="list-style-type: none">Year 8 will also take an end of year examination in the summer term.	
Key Skills	<ul style="list-style-type: none">To provide opportunities for learner to demonstrate their knowledge of mathematics across a whole range of topic areas.To allow learners to develop their problem-solving strategies and provide the confidence and skills required to tackle unfamiliar challenges.			Links to Careers <ul style="list-style-type: none">Mathematics teaches accuracy and precision in work. The analytical and problem-solving skills you learn are valuable in many different careers, for example Accountancy, Teaching, Business, Medicine, Architecture and Computer Studies.		



Subject Curriculum – Year 8 Pi

Big Ideas & Purpose

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Programme of Study

HT1 Number properties and calculations Adding and subtracting with larger numbers More calculations Negative numbers STEM: Writing ratios Using ratios to solve problems Multiplicative reasoning Shapes and measures in 3D 3D solids Nets of 3D solids Surface area Volume Working with measures	HT2 Statistics Data collection sheets Interpreting bar charts Drawing bar charts STEM: Pie charts Expressions and equations Simplifying expressions Functions Solving equations Using brackets	HT3 Decimal calculations Adding and subtracting decimals Multiplying decimals Ordering and rounding decimals STEM: Problem-solving with decimals Angles Measuring and drawing angles Vertically opposite angles Angles in triangles Drawing triangles accurately Designing nets	HT4 Fractions and percentages Comparing fractions Fractions of amounts Adding and subtracting fractions Fractions and percentages Calculating percentages STEM: Percentages and proportion Number properties Squares, cubes and roots Calculating with brackets and indices LCM and HCF Prime factor decomposition	HT5 Probability The language of probability Outcomes Probability calculations Experimental probability FINANCE: Comparing probabilities	HT6 Sequences Generating sequences Extending sequences Special sequences Position-to-term rules Finding the nth term
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