

Delta Year 7 MASTERY Scheme of Work

Half Term 1

Unit 1 Place value, decimals and using scales.

- Place values integers and decimals up to 1 million.
- Ordering Decimals
- Multiply and divide integers by powers of 10.
- Metric units for length and mass including decimal quantities including measuring lengths practically.
- Applying place value to understanding and constructing scale drawings inc ratio to express scale.

Unit 2 Factors, Multiples and Primes. HCF and LCM.

- Multiplicative Number Bonds
- What is a factor?
- What is a multiple?
- What is a prime number?
- Concept of common multiples and common factors.
- HCF and their application.
- LCM and their application.

Unit 3 Four operations with integers and decimals.

- Number bonds – Numbers within numbers

4 operations with integers and decimals.

- Microsteps Multiplication

Half Term 2

Unit 3 Four operations with integers and decimals.

- Microsteps Division

Unit 4 Understanding fractions

- What is a fraction
- Equivalent fractions
- Fraction and decimal equivalence
- Expressing one amount as a fraction of another.
- Fraction of an amount

Unit 5 Four operations with fractions

- Simplifying fractions
- Addition of fractions including mixed numbers
- Subtraction of fractions including mixed numbers
- Multiplication of an integer by a fraction/mixed number

	<ul style="list-style-type: none"> • Multiplication of two fractions including mixed numbers • Division of fractions including mixed numbers
Half Term 3	<p>Unit 6 Compare and order fractions, decimals and integers.</p> <ul style="list-style-type: none"> • Ordering decimals • Using maths symbols • Ordering fractions • Ordering integers • Representing inequalities on number lines • Ordering integers, fractions and decimals <p>Unit 7 Solving equations</p> <ul style="list-style-type: none"> • Number bonds and inverse operations • Solve one step equations • Solve two step equations • Solving with x on both sides of the equation <p>Unit 8 Presenting and interpreting data</p> <ul style="list-style-type: none"> • Interpreting diagrams that represent data • Creating bar charts • Averages • Drawing pie charts • Averages from frequency tables • Problem solving with averages
Half Term 4	<p>Unit 9 Perimeter</p> <ul style="list-style-type: none"> • Recap of 2D shapes and units of measure • Perimeter of rectangles, rectilinear shapes and circles • Problem solving with perimeter <p>Unit 10 Area and Perimeter</p> <ul style="list-style-type: none"> • Perimeter and area of rectangles and rectilinear shapes. • Area of parallelograms, triangles, trapeziums, kites • Problem solving with area
Half Term 5	<p>Unit 11 Sequences</p> <ul style="list-style-type: none"> • Adding and subtracting negatives • What is a sequence • Sequences in pictorial form • Finding missing terms • Nth term and using nth term

	<ul style="list-style-type: none"> • Special sequences <p>Unit 12 Properties of shapes</p> <ul style="list-style-type: none"> • Measuring and Estimating angles • Parallel lines • Reflection and lines of symmetry • Rotation and rotation symmetry • Using symbols and letters to show properties of shapes • Properties of regular shapes and circles
Half Term 6	<p>Unit 13 Angle Properties</p> <ul style="list-style-type: none"> • Angles around a point • Angles on a line • Angles in a triangle • Angles in a quadrilateral • Polygons and their angles <p>Unit 14 Parallel lines and angles</p> <ul style="list-style-type: none"> • Parallel and perpendicular lines • Vertically opposite angles • Corresponding angles • Alternate angles • Co-interior angles • Further problems with parallel lines <p>Unit 15 Co-ordinates and transformations</p> <ul style="list-style-type: none"> • Plotting and reading co-ordinates • Translations, Rotations, Reflections • Describing transformations • Combined transformations

Delta Year 8 MASTERY Scheme of Work

Half Term 1

Unit 1 Understanding Percentages

- Comparing and Ordering Fractions and Decimals
- Equivalent Fractions, Decimals and Percentages
- One amount as a Percentage of another
- Ordering FDP
- Decimal > 1 as a Percentage
- Change as a Percentage

Unit 2 Fractions and Percentages as Operators

- Fractions of amounts
- Percentages of amounts
- Percentage Increase and Decrease
- Reverse Percentages

Unit 3 Ratio

- Writing using ratios
- Simplifying Ratios
- Sharing in given ratios

Half Term 2

Unit 3 Ratio

- Solving problems with Fractions, Percentages and Ratios

Unit 4 Powers and Roots

- Recap Factors – numbers with odd number of factors
- Calculating with squares and cubes
- Solving problems involving squares and cubes, linking to area and volume
- Product of prime factors
- Understanding and calculating with indices greater than 3
- Understanding and using negative indices

Unit 5 Order of Operations

- Understanding the four operations
- Perform the four operations with negative numbers
- Correctly apply the order of operations including indices and brackets
- Substitute into given formula

<p>Half Term 3</p>	<p>Unit 6 Simplifying and Manipulating Algebra</p> <ul style="list-style-type: none"> • Understand the meaning of Identity • Identify Identities, Formula, Equations and Expressions • Simplify by collecting like terms • Expand single brackets in a given expression • Fully Factorise a given expression into a single bracket <p>Unit 7 Plotting and Interpreting Graphs</p> <ul style="list-style-type: none"> • Plot Vertical and Horizontal line and link to their equations • Plot a linear graph by completing a table of values • Understand graphs in the form $y=mx+c$ identifying gradient and intercept. • Plot simple quadratic graphs • Plot multiple graphs in order to solve equations <p>Unit 8 Introducing Probability</p> <ul style="list-style-type: none"> • Describe probability in words • Describe Probability in numbers • Calculate expectation using probability • Calculate relative frequency from data
<p>Half Term 4</p>	<p>Unit 8 Introducing Probability</p> <ul style="list-style-type: none"> • Use 'Sum', 'Not' and 'Or' rules for probability <p>Unit 9 Circles and Compound Area</p> <ul style="list-style-type: none"> • Identify parts of a circle • Derive and use are a of a circle formula • Solve problems involving circle area and circumference • Calculate for compound shapes involving circles • Calculate arc length and sector area for fractions of circles <p>Unit 10 3D Shapes, Capacity and Volume</p> <ul style="list-style-type: none"> • Identify faces, edges and vertices of a 3D shape • Calculate volume of a prism • Work backwards from a volume to find other dimensions • Solve problems involving the volume of a prisms • Calculate the volume of compound prisms
<p>Half Term 5</p>	<p>Unit 11 Proportion</p> <ul style="list-style-type: none"> • Unit Ratios • Simplifying and combining ratios

	<ul style="list-style-type: none"> • Unitary method for proportion problems • Solving map and scale problems • Solving exchange rate problems • Solving recipe problems <p>Unit 12 Constructions</p> <ul style="list-style-type: none"> • Perform simple constructions • Solve loci problems by combining constructions • Construct triangles <p>Unit 13 Similarity and Congruence</p> <ul style="list-style-type: none"> • Perform and Describe Translations, Reflections and Rotations • Perform and Describe Enlargements
Half Term 6	<p>Unit 13</p> <ul style="list-style-type: none"> • Understand the terms congruent and similar • Solve problems involving congruency and similarity • Find lengths, areas and volumes in similar shapes • Prove congruency in triangles <p>Unit 14 Applied Graphs</p> <ul style="list-style-type: none"> • Understand the equation $y=mx+c$ • Use conversion graphs • Link graphs in context to the equation $y=mx+c$ • Solve problems in context using linear graphs • Solve linear simultaneous equations graphically <p>Unit 15 Further Probability</p> <ul style="list-style-type: none"> • Use two way tables and Frequency Trees to calculate probabilities • Represent overlapping events in a Venn diagram • Calculate probabilities from a Venn diagram • Use the 'Or' rule for non-mutually exclusive events

Delta Year 9 Scheme of Work – Route 1

Half Term 1	<p>Unit 1 - Number</p> <ul style="list-style-type: none">• Integers and Place Value• Decimals• Indices, Powers and Roots• Factors, Multiples and Primes <p>Unit 2 - Algebra</p> <ul style="list-style-type: none">• Algebra basics• Expressions• Substitution into formulae
Half Term 2	<p>Unit 3 - Geometry</p> <ul style="list-style-type: none">• Properties of shape• Parallel lines and Angle Facts• Interior and Exterior Angles of Polygons•
Half Term 3	<p>Unit 4 - Geometry</p> <p>Right-angled triangles: Pythagoras and trigonometry</p> <p>Unit 5 - Number</p> <ul style="list-style-type: none">• Fractions, Decimals and Percentages
Half Term 4	<p>Unit 6 – Number</p> <ul style="list-style-type: none">• Indices• Standard Form <p>Unit 7 - Algebra</p> <ul style="list-style-type: none">• Equations• Inequalities• Sequences
Half Term 5	<p>Unit 8 - Ratio and Proportion</p> <ul style="list-style-type: none">• Ratio

	<ul style="list-style-type: none">• Proportion
Half Term 6	Unit 9 - Geometry <ul style="list-style-type: none">• Perimeter• Area• Volume

Delta Year 9 Scheme of Work – Route 2

Half Term 1	<p>Unit 1 - Number</p> <ul style="list-style-type: none">• Calculations, checking and rounding• Indices, roots, reciprocals and hierarchy of operations• Factors, multiples and primes• Standard form• Surds <p>Unit 2 - Algebra</p> <ul style="list-style-type: none">• Rearranging and solving equations• Factorising• Functions
Half Term 2	<ul style="list-style-type: none">• Sequences <p>Unit 3 - Geometry</p> <ul style="list-style-type: none">• Polygons, angles and parallel lines• Pythagoras Theorem• Trigonometry
Half Term 3	<p>Unit 4 – Ratio and proportion</p> <ul style="list-style-type: none">• Fraction, Decimals and Percentages• Ratio and Proportion
Half Term 4	<p>Unit 5 - Geometry</p> <ul style="list-style-type: none">• Perimeter, area and circles• 3D forms and volume, cylinders, cones and spheres• Accuracy and bounds
Half Term 5	<p>Unit 6 - Algebra</p> <ul style="list-style-type: none">• Solving quadratics• Simultaneous equations• Inequalities• Iteration

Half Term 6

Unit 6

- Real-life and algebraic linear graphs
- Quadratic and cubic graphs
- The equation of a circle

Delta Year 10 Scheme of Work – Route 1

Half Term 1	<p>Unit 1 - Geometry</p> <ul style="list-style-type: none">• Circles, cylinders, cones and spheres <p>Unit 2 - Geometry</p> <ul style="list-style-type: none">• Transformations
Half Term 2	<p>Unit 3 – Algebra</p> <ul style="list-style-type: none">• Real life Graphs• Straight line graphs
Half Term 3	<p>Unit 4 - Statistics</p> <ul style="list-style-type: none">• Tables• Charts and graphs• Pie charts• Scatter diagrams <p>Unit 5 - Statistics</p> <ul style="list-style-type: none">• Sampling• Statistics
Half Term 4	<p>Unit 6 - Probability</p> <ul style="list-style-type: none">• Probability
Half Term 5	<p>Unit 7 – Ratio and proportion</p> <ul style="list-style-type: none">• Multiplicative reasoning: more percentages• Rates of change
Half Term 6	<p>Unit 8 – Algebra</p> <ul style="list-style-type: none">• Quadratics

	Delta Year 10 Scheme of Work – Route 2
Half Term 1	<p>Unit 1 - Geometry</p> <ul style="list-style-type: none"> • Transformations • Constructions: triangles, nets • Plan and elevation, • Loci • Scale drawings • Bearings <p>Unit 2 - Statistics</p> <ul style="list-style-type: none"> • Averages and Range • Representing and Interpreting Data • Scatter Graphs
Half Term 2	<p>Unit 3 – Statistics</p> <ul style="list-style-type: none"> • Sampling • Collecting Data • Cumulative frequency • Box plots • Histograms <p>Unit 4 - Probability</p> <ul style="list-style-type: none"> • Probability – Tree diagrams
Half Term 3	<p>Unit 5 – Ratio and proportion</p> <ul style="list-style-type: none"> • Multiplicative reasoning: direct and inverse proportion, relating to graph form for direct • Compound measures • Repeated proportional change
Half Term 4	<p>Unit 6 – Geometry</p> <ul style="list-style-type: none"> • Sine and cosine rules • $ab \sin C$ • Trigonometry and Pythagoras' Theorem in 3D • Trigonometric graphs • Accuracy and bounds

	<p>Unit 7 - Geometry</p> <ul style="list-style-type: none">• Similarity and congruence in 2D and 3D
Half Term 5	<p>Unit 8 - Algebra</p> <ul style="list-style-type: none">• Quadratics• Expanding more than two brackets• Sketching graphs• Iteration <p>Unit 9</p> <ul style="list-style-type: none">• Circle theorems• Circle geometry
Half Term 6	<p>Unit 10</p> <ul style="list-style-type: none">• Vectors• Geometric proof

	Delta Year 11 Scheme of Work – Route 1
Half Term 1	<p>Unit 1 - Geometry</p> <ul style="list-style-type: none"> • Constructions: triangles, nets • Plan and elevation • Loci • Scale drawings and bearings <p>Unit 2 - Geometry</p> <ul style="list-style-type: none"> • Congruence • Similarity • Vectors
Half Term 2	<p>Unit 3 – Algebra</p> <ul style="list-style-type: none"> • Rearranging equations • Graphs of cubic and reciprocal functions • Simultaneous equations <p>Revision / personalised learning from QLA</p>
Half Term 3	Revision / personalised learning from QLA
Half Term 4	Revision / personalised learning from QLA
Half Term 5	Revision / personalised learning from QLA

	Delta Year 11 Scheme of Work – Route 2
Half Term 1	Unit 1 – Algebra <ul style="list-style-type: none"> • Changing the subject of formulae (more complex) • Algebraic fractions • Solving equations arising from algebraic fractions • Rationalising surds • Proof • Functions
Half Term 2	Unit 2 - Algebra <ul style="list-style-type: none"> • Direct and indirect proportion: using statements of proportionality • Reciprocal and exponential graph • Rates of change in graphs
Half Term 3	Revision / personalised learning from QLA
Half Term 4	Revision / personalised learning from QLA
Half Term 5	Revision / personalised learning from QLA

Exam board used:	Edexcel
Useful websites:	www.hegartymaths.com https://www.bbc.com/bitesize/examspecs/z9p3mnb
Useful texts:	REVISE Edexcel GCSE (9-1) Mathematics Higher/Foundation Revision Guide