

LQS Maths Dept

**Subject: Y10 Mathematics Foundation**

Year 10 Foundation	Autumn A			Autumn B		
Unit & length	<b>Numbers the numbers system (2wks)</b>	<b>Calculating Space (2wks)</b>	<b>Calculating (3wks)</b>	<b>Visualising &amp; Constructing (2wks)</b>	<b>Algebraic Manipulation (2wks)</b>	<b>Understanding Risk 1 (2wks)</b>
Curriculum outline	Rounding to a power of 10 Rounding decimals to integers Rounding numbers to decimal places Recognise and use multiples Lowest Common Multiple by listing Recognise and use factors Highest Common Factor by listing	Find the area and perimeter of rectangles and rectilinear shapes Find the area of triangles and parallelograms Find the volume of cubes and cuboids Find the surface area of cubes and cuboids	Four operations with negative numbers Basic laws of indices Converting standard form Calculating standard form	Reading and interpreting scale Construct and interpret plans & elevations Draw and interpret nets of solids Use isometric paper to represent 3D shapes	Collect like terms Expand a single bracket Factorise to a single bracket Substitute positive and negative values into formulae Change the subject of a simple formula	Know and use probability vocabulary Understand and use the probability scale Know that the sum of probabilities of any event is 1 List outcomes, inc tables Find the probability of a single event happening Find the probability of a single event not happening
Assessment/s	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment

Year 10 Foundation	Spring A			Spring B		
Unit & length	<b>Sequences (2wks)</b>	<b>Exploring Fractions, Decimals &amp; Percentages (2wks)</b>	<b>Proportional reasoning (2wks)</b>	<b>Area &amp; Perimeter (2wks)</b>	<b>Calculating FDP (2wks)</b>	<b>TRIDENT</b>
Curriculum outline	Finding next terms, or missing terms, within a sequence Work with picture sequences Find the nth term of a linear sequence Use the nth term to generate sequences	Equivalent fractions Simplifying fractions Convert to a decimal using a calculator Use all four operations... including show that Compare and order FDP	Simplify ratios Reading and Writing ratios Understand the connections between ratios and fractions Divide a quantity in a given ratio Use ratio to solve problems eg recipes	Name the parts of a circle Calculate the circumference of a circle Calculate the area of a circle	Find the percentage of an amount Calculate one value as a percentage of another Calculate simple percentage increase Calculate simple percentage decrease Solve problems with percentages	
Assessment/s	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	

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Year 10 Foundation	Summer A			Summer B		
Unit & length	Solving Linear Equations (2wks)	Understanding Risk 2 (2wks)	Straight-line Graphs (2wks)	Presentation of data (2wks)	Angle Geometry (2wks)	Consolidation & Retrieval
Curriculum outline	Interpret simple equations Solve one-step and two-step linear equations by balance Form simple equations	Use systematic listing for two events Construct and interpret a Venn diagram and calculate probabilities from a Venn diagram Construct and interpret a sample space diagram and use it to calculate probabilities Become familiar with a simple tree diagram	Recap coordinates in all four quadrants Plot a straight line from a table of values Recognise and use the equation of a straight line	Construct and interpret frequency tally charts Construct and interpret simple bar charts Construct and interpret dual bar charts Construct and interpret Pie Charts Calculate and use averages and range of a simple data set	Know and use the basic angle rules to find missing angles: <ul style="list-style-type: none"> <li>• angles on a line</li> <li>• angles around a point</li> <li>• angles in a triangle</li> <li>• vertically opposite angles</li> </ul>	Consolidate key aspects of the Y10 curriculum
Assessment/s	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment

**Subject: Y10 Mathematics Foundation Plus**

Year 10 Foundation Plus	Autumn A			Autumn B		
Unit & length	Calculating (4wks)	Pythagoras' Theorem (3wks)	Calculating Space (2wks)	Visualising & Constructing (3wks)	Algebraic Manipulation 1 (2wks)	Algebraic Manipulation 2 (2wks)
Curriculum outline	Calculate with squares & roots Calculate with positive & negative indices Rounding to decimal places Rounding to significant figures Convert & calculate with standard form Identify minimum and maximum values of a number rounded to given accuracy Use inequalities to describe the limits of accuracy of a value	Recognise Pythagoras' Theorem Use Pythagoras' Theorem to find the hypotenuse in a right angled triangle Use Pythagoras' Theorem to find the short side in a right angled triangle Solve worded problems involving missing sides in a right angled triangle	Recap area and perimeter of rectangle Calculate the volume of cubes and cuboids Calculate the volume of other prisms Calculate the surface area of cubes and cuboids Solve problems in 3D	Confidently use a protractor & compass Construct triangles Construct an angle bisector Construct a line bisector Understand bearings Solve problems using bearings	Expand to a single bracket Expand double brackets with positive and negative values Recognise and expand with D.O.T.S	Factorise to a single bracket Factorise a quadratic to double brackets Recognise and factorise with D.O.T.S
Assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment

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Year 10 Foundation Plus	Spring A			Spring B		
Unit & length	Sequences (2wks)	Proportional Reasoning (2wks)	Averages & Range (2wks)	Equations & Inequalities (2wks)	Calculating Space 2 (3wks)	Trident
Curriculum outline	Recognise and describe a linear sequence Finding the next terms, or missing terms in a sequence Generate terms from a term to term rule, or a picture sequence Finding the nth term of a linear sequence Solve problems involving linear sequences	Solve problems involving simple proportion Solve problems involving direct proportion and inverse proportion	Calculate averages from ungrouped and grouped data Find quartiles of a set of data Calculate the IQR of a set of data Construct and interpret a box plot	Solve linear equations Form and solve linear equations Determine the values represented by a linear inequality Solve linear inequalities Represent inequalities on a numberline	Calculate the area of rectangles Calculate the area of triangles, and other quadrilaterals Calculate the area and circumference of circles Calculate the area and perimeter of semi circles and quadrants	
Assessment/s	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	

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Year 10 Foundation Plus	Summer A			Summer B		
Unit & length	Equations and Inequalities (2wks)	Understanding Risk 2 (2wks)	Graphs (2wks)	Investigating Angles (2wks)	Presentation of Data (2wks)	Consolidation
Curriculum outline	Solve linear equations Solve linear equations by elimination, including those that required multiplication	Construct and interpret a sample space diagram and use it to calculate probabilities Become familiar with a simple tree diagram Appreciate that relative frequency tend towards theoretical probability as the number of trials increases Recognise and appreciate bias	Plot a line from a table of values Plot a line from gradient and y intercept Find the equation of a line from the graph Use the equation of a line	Find missing angles at a point Find missing angles on a straight line Find missing angles in a triangle Find missing angles that are vertically opposite Solve problems involving missing angles	Construct and interpret bar charts & dual bar charts Construct and interpret pie charts Construct and interpret population pyramids Construct and interpret scatter diagrams inc lines of best fit and correlation	Consolidation and retrieval of key concepts
Assessment/s	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 End of year assessment

**Subject: Y10 Mathematics Higher**

Year 10 Higher	Autumn A			Autumn B		
Unit & length	Pythagoras & Trigonometry (2wks)	Equations & Inequalities (3wks)	Proportional Reasoning (2wks)	Visualising and Constructing (3wks)	Algebraic Manipulation (2wks)	Calculating (2wks)
Curriculum outline	Recap using Pythagoras' theorem to find missing sides Introduction to the three trig ratios Use Trigonometry to find missing sides Use Trigonometry to find missing angles Use Trigonometry to solve problems involving bearings Solve problems including Pythagoras and Trigonometry	Recap solving simultaneous equations by elimination Solve simultaneous equations by substitution Solve simultaneous equations including one linear and one quadratic Relate the solution to simultaneous equations to it graph	Use the constant of proportionality Solve direct proportion problems Solve indirect proportion problems	Construct triangles Construct a line bisector Construct an angle bisector Bisect a line from a point both on and above a given line Understand how to construct a loci Solve problems involving bearings	Recap expanding two brackets Expand three brackets Factorise quadratics Factorise non-monic quadratics Simplify algebraic fractions Use four operations with algebraic fractions Change the subject of a formula when the subject appears twice	Determine the minimum and maximum of a given value Calculate bounds Work with fractional and negative indices Simply surds by prime decomposition Use four operations with surds Multiply brackets including surds
Assessment/s	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment

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Year 10 Higher	Spring A			Spring B		
<b>Unit &amp; length</b>	<b>Complex sequences (2wks)</b>	<b>More equations and inequalities (2wks)</b>	<b>Circle Geometry (2wks)</b>	<b>Calculating Space (2wks)</b>	<b>Statistics (2wks)</b>	<b>Trident</b>
<b>Curriculum outline</b>	Find the nth term of a linear sequence Find the nth term of a quadratic sequence Describe a geometric sequences Find term within a geometric sequence	Represent inequalities on a graph Identify inequalities from a graph Represent a quadratic inequality on a graph Solve a quadratic inequality from a graph	Recognise and use all the circle theorems State the circle theorem relevant to a geometric problem	Calculate the volume of prisms, spheres, cones and pyramids Calculate surface area of prisms, spheres, cones and pyramids Work with similar shapes using Length, Area and Volume factors	Use a sample to infer properties of a population Understand the limitations of a sample Calculating a sample Calculate averages of ungrouped and grouped data Interpret a data set	
<b>Assessment/s</b>	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	

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Year 10 Higher	Summer A			Summer B		
<b>Unit &amp; length</b>	<b>Quadratic Equations (2wks)</b>	<b>Complex probability (2wks)</b>	<b>Other Graphs (2wks)</b>	<b>More Statistical diagrams (3wks)</b>	<b>Investigating angles (2wks)</b>	<b>Consolidation</b>
<b>Curriculum outline</b>	Solve Quadratics by factorisation Solve Quadratics by using the formula Solve Quadratics by completing the square Estimate solutions to a quadratic from a graph Identify critical points of a Quadratic graph	Work with AND/ OR rules Construct and use Tree diagrams with standard and conditional probabilities Calculate complex probabilities	Recognise and sketch graphs of non linear/ quadratic functions Distance Time graphs Velocity Time graphs	Construct and interpret histograms Construct and interpret cumulative frequency diagrams Interpret quartiles from a CF graph Construct box plots from a CF graph Compare distributions	Solve problems finding missing angles using basic rules Use angle rules around parallel lines Work with interior and exterior angles in a polygon Solve a variety of angle problems	Consolidation and retrieval of key concepts
<b>Assessment/s</b>	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 Past paper assessment	Retrieval homework x 2 End of year assessment