

LQS Maths Dept

Subject: Y9 Mathematics Foundation

Year 9 Foundation	Autumn A			Autumn B		
Unit & length	Rounding & Approximation (2wks)	Transformations (2wks)	Calculating (3wks)	Exploring Fractions, Decimals & Percentages (3wks)	Algebraic Manipulation (2wks)	Area & Perimeter (2wks)
Curriculum outline	Rounding to a power of 10 Rounding decimals to integers Round to decimal places Estimate calculations by rounding Reading scales Convert metric units	Perform and name reflections Perform and name rotations Perform and name translations Perform and name enlargements (no centre)	Effective calculator use Work confidently with negative numbers Use and apply the order of operations Become familiar with the square, cube and root functions Know and apply the basic laws of indices	Equivalent fractions Simplifying fractions Convert between improper fractions and mixed numbers Calculate with all 4 operations, with and without a calculator Convert a fraction into a decimal	Simplify expressions by collecting like terms, with positive and negative coefficients Substitution of positive values Expand a single bracket Use function machines to solve problems	Recap on the area and perimeter of rectangles and compound shapes Use area and perimeter with other quadrilaterals Recognise and name the parts of a circle Calculate the area of a circle Calculate the circumference of a circle
Assessment/s	Retrieval homework x 2 CAT & GL assessments	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 End of term assessment	Retrieval homework x 2

Year 9 Foundation	Spring A			Spring B		
Unit & length	Linear sequences (2wks)	Calculating with Percentages (2wks)	Solving Equations (2wks)	Presentation of data (2wks)	Understanding Risk 1 (2wks)	Straight line graphs (2wks)
Curriculum outline	Describe and generate a linear sequence from a term to term rule Describe and generate a linear sequence from position to term rule Describe and generate a linear sequence from picture pattern Find the nth term of a linear sequence	Writing percentages Finding a percentage of an amount Calculate simple percentage increase and decrease	Solve simple one-step equations with function machines Solve two step equations with function machines Form and solve simple linear equations	Recognise and use the term to term rule for a sequence Finding next terms, or missing terms, withing a sequence Generate terms of a sequence from a term to term rule Work with picture patterns Explore simple position to term sequences	Become familiar with probability vocabulary Recognise and use the probability scale Know and apply that all probabilities must add to 1 Calculate simple probabilities of equally likely outcomes of an event	Recap coordinates in all four quadrants Construct a table of values for a linear function Plot a straight line from a table of values
Assessment/s	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 End of term assessment	Retrieval homework x 2

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Year 9 Foundation	Summer A			Summer B		
Unit & length	Understanding Risk 2 (2wks)	Proportional Reasoning (2wks)	Numbers & the number system (2wks)	Investigating Angles (3wks)	Collecting data (2wks)	Consolidation
Curriculum outline	Construct and interpret Venn diagrams List all possible outcomes of and event Construct and interpret Frequency Trees Construct and interpret Sample Space diagrams	Express the division of a value as a ratio Understand the relationship between fractions and ratios Simplify ratios Divide a quantity into a given ratio	Identify factors and multiples of a number Find the HCF by listing factors Find the LCM by listing multiples	Solve angle problems using basic angle rules Determine the value of an interior angle of a polygon Determine the value of an exterior angle of a polygon	Types of data Questionnaires and surveys Tally charts and frequency tables Calculate averages from a simple data set	Consolidation and retrieval of key concepts
Assessment/s	Retrieval homework x 2	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2	Retrieval homework x 2 End of term assessment

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Subject: Y9 Mathematics Foundation Plus

Year 9 Foundation +	Autumn A			Autumn B		
Unit & length	Rounding & Approximation (2wks)	Transformations (2wks)	Calculating (3wks)	Exploring Fractions, Decimals & Percentages (3wks)	Algebraic Manipulation (2wks)	Area & Perimeter (2wks)
Curriculum outline	Round to decimal places Round numbers to significant figures Estimate calculations by rounding Reading scales Convert metric units	Perform and name reflections Perform and name rotations Perform and name translations Perform and name enlargements	Effective calculator use Work confidently with negative numbers Use and apply the order of operations Become familiar with the square, cube and root functions Know and apply the basic laws of indices Convert standard form Calculate with standard form	Equivalent fractions Simplifying fractions Convert between improper fractions and mixed numbers Calculate with all 4 operations, with and without a calculator Convert a fraction into a decimal	Simplify expressions by collecting like terms, with positive and negative coefficients Substitution of positive values Expand a single bracket Use function machines to solve problems	Recap on the area and perimeter of rectangles and compound shapes Use area and perimeter with other quadrilaterals Recognise and name the parts of a circle Calculate the area of a circle Calculate the circumference of a circle
Assessment/s	Retrieval homework x 2 CAT & GL assessments	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 End of term assessment	Retrieval homework x 2

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Year 9 Foundation +	Spring A			Spring B		
Unit & length	Linear sequences (2wks)	Calculating with Percentages (2wks)	Solving Equations (2wks)	Presentation of data (2wks)	Understanding Risk 1 (2wks)	Straight line graphs (2wks)
Curriculum outline	Describe and generate a linear sequence from a term to term rule Describe and generate a linear sequence from position to term rule Describe and generate a linear sequence from picture pattern Find the nth term of a linear sequence	Writing percentages Finding a percentage of an amount Calculate simple percentage increase and decrease Calculate percentage change	Solve simple one-step equations with function machines Solve two step equations with function machines Form and solve simple linear equations	Recognise and use the term to term rule for a sequence Finding next terms, or missing terms, withing a sequence Generate terms of a sequence from a term to term rule Work with picture patterns Explore simple position to term sequences	Become familiar with probability vocabulary Recognise and use the probability scale Know and apply that all probabilities must add to 1 Calculate simple probabilities of equally likely outcomes of an event	Recap coordinates in all four quadrants Construct a table of values for a linear function Plot a straight line from a table of values
Assessment/s	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 End of term assessment	Retrieval homework x 2

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Year 9 Foundation +	Summer A			Summer B		
Unit & length	Understanding Risk 2 (2wks)	Proportional Reasoning (2wks)	Numbers & the number system (2wks)	Investigating Angles (2wks)	Collecting data (2wks)	Consolidation
Curriculum outline	Construct and interpret a Venn diagram Use systematic listing to find all possible outcomes Work with Frequency Trees Construct and interpret sample space diagrams Be able to calculate expected outcomes	Read and write ratios Simplify ratios Divide a quantity in a given ratio Solve problems in a variety of contexts with ratios	Recognise and use multiples Recognise and use factors Use prime factor decomposition to write any number as a product of prime factors Find LCM & HCF using Venn diagrams	Know and use the properties of angles Use the properties of angles on a line, in a triangle, around a point and vertically opposite angles Explore interior and exterior angles of a polygon	Know different types of data Critique and construct questionnaires and surveys Construct charts and frequency tables Find averages and range of sets of data and from tables	Consolidation and retrieval of key concepts
Assessment/s	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 End of term assessment	Retrieval homework x 2 End of term assessment

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Subject: Y9 Mathematics Higher

Year 9 Higher	Autumn A			Autumn B		
Unit & length	Calculating (3wks)	Transformations (2wks)	Equations and inequalities (2wks)	Fractions (3wks)	Algebraic Manipulation (2wks)	Calculating space (2wks)
Curriculum outline	Round to decimal places Round numbers to significant figures Work with the laws of indices Convert between standard form and normal numbers Calculate with standard form Work with upper and lower bounds Use inequalities to describe the limits of accuracy	Perform and name reflections Perform and name rotations Perform and name translations Perform and name enlargements Use all four transformations on a coordinate grid	Form equations Change the subject of a formula Substitute into formulae and expressions Solve linear equations Write an inequality as represented on a numberline Represent an inequality on a numberline Solve problems including inequalities	Convert between improper fractions and mixed numbers Calculate with all 4 operations, with and without a calculator Convert a fraction into a decimal Order fractions	Simplify expressions by collecting like terms, with positive and negative coefficients Expand a single bracket Expand double brackets Factorise to a single bracket Factorise quadratics to double brackets	Recap on the area and perimeter of rectilinear shapes Calculate the area of a circle Calculate the circumference of a circle Calculate the radius or diameter give the area or circumference of circle Calculate the area and arc length of sectors
Assessment/s	Retrieval homework x 2	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 End of term assessment	Retrieval homework x 2

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Year 9 Higher	Spring A			Spring B		
Unit & length	Sequences (2wks)	FDP (2wks)	Pythagoras' Theorem (2wks)	Statistical diagrams(2wks)	Similar shapes (2wks)	Graphs (2wks)
Curriculum outline	Recognise and use arithmetic sequences Recognise and use Fibonacci sequences Find the nth term of a linear sequence Explore quadratic sequences	Convert recurring decimals to fractions Find the result of a percentage increase or decrease Calculate percentage change Calculate reverse percentages Calculate compound interest	Recognise and use Pythagoras' theorem to find a short side Recognise and use Pythagoras' theorem to find the hypotenuse Solve problems using Pythagoras' theorem Recognise a Pythagorean triple	Construct and interpret diagrams including time series, dual and compound bar charts, stem and leaf diagrams and frequency polygons Construct and interpret scatter diagrams including lines of best fit and correlation Find quartiles of a set of data Construct and interpret cumulative frequency diagrams and box plots	Recognise congruent and similar shapes Find missing lengths in similar shapes	Plot a straight line from a table of values Plot a straight line using gradient and y intercept Find the gradient of a line Find the equation of a line from the graph Recognise parallel and perpendicular lines Use the equation of a line to construct the equations for lines parallel and perpendicular Explore quadratic graphs
Assessment/s	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 End of term assessment	Retrieval homework x 2

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Year 9 Higher	Summer A			Summer B		
Unit & length	Understanding Risk (2wks)	Proportional reasoning (2wks)	Averages and range (2wks)	Equations and inequalities 2 (3wks)	Collecting data (2wks)	Consolidation
Curriculum outline	Know and apply the property that all possibilities must add to 1 Find probabilities from sample space diagrams Construct a tree diagram Find probabilities from a tree diagram Explore conditional probability Understand that relative frequency tends towards theoretical probability as the number of trials increases	Divide a quantity into a given ratio Work with proportion Solve direct and inverse proportion problems	Work with simple data sets, grouped and ungrouped data Calculate all averages from grouped and ungrouped data Recognise the benefits and limitations of all averages Calculate moving averages	Solve linear equations Solve linear simultaneous equations, including multiplication of one or both equations, by elimination Form and solve simple linear simultaneous equations	Types of data Questionnaires and surveys Sampling and bias	Consolidation and retrieval of key concepts
Assessment/s	Retrieval homework x 2	Retrieval homework x 2	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2 Open Book Assessment	Retrieval homework x 2	Retrieval homework x 2 End of term assessment