BLESSED TRINITY RC COLLEGE

BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 1

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Geometrical reasoning: lines, angles and shapes	To learn the angle properties of quadrilaterals, pentagons, hexagons and all regular polygons	Explore the sums of interior and exterior angles in quadrilaterals, pentagons and hexagons Construct regular polygons inside circles Investigate interior and exterior angles in regular polygons	**L6SSM1**	Peer, self and teacher assessment Weekly homework
Geometrical reasoning: lines, angles and shapes	To calculate missing angles in diagrams which include: parallel lines; triangles and other polygons	Using diagrams and text, explain reasoning in working out missing angles	**L6SSM2**	Peer, self and teacher assessment Weekly homework
Construction and Loci	To combine simple construction techniques to draw polygons using a compass and a straight edge To describe simple loci	Use a ruler and compass to construct a right angled triangle given the length of two sides Devise methods to construct shapes such as: regular polygons using a ruler and compass or ICT Construct loci from a fixed point or line	**L6SSM8**	Peer, self and teacher assessment Weekly homework

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SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 1

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Equations, formulae, identities and expressions	To develop skills in working with algebraic expressions and formulae	Apply the rules of indices to algebraic expressions Factorise expressions by taking out a highest common factor Substitute positive and negative numbers into expressions and formulae	Mymaths task Factorising linear	Peer, self and teacher assessment Weekly homework
Ratio and proportion	To solve problems using proportional reasoning	Compare ratios Solve ratio problems in a variety of contexts	**L6CALC2**	Peer, self and teacher assessment **Class test**
Ratio and proportion	To solve problems using proportional reasoning	In percentage problems, identify or calculate the value which is 100%	Revision	Peer, self and teacher assessment **Class test**

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BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 2

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Fractions, decimals and percentages	To be able to add, subtract, Multiply, divide a full range of fractions efficiently	Practise skills in addition and subtraction of fractions on a range of numerical and simple algebraic fractions Understand efficient methods for multiplying and dividing numerical fractions	**L6CALC4**	Peer, self and teacher assessment Weekly homework
Fractions, decimals and percentages	To use the equivalence of fractions, decimals and percentages in solving problems	Solve problems involving comparisons such as best buys, or special offers using fractions and percentages Explore different methods of solving problems involving percentage changes	**L6CALC1**	Peer, self and teacher assessment Weekly homework

BLESSED TRINITY RC COLLEGE

BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 2

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Processing and representing data; Interpreting and discussing results	To use line graphs and other charts appropriately to interpret data To use scatter graphs appropriately to interpret data	Research different data types Draw and use line graphs for time series, including distance time, and conversions graphs Using ICT, or by hand, display data on frequency diagrams and pie charts Draw and use scatter graphs to develop understanding of correlation	Guided research homework **L5HD7** **L6HD2**	Peer, self and teacher assessment Weekly homework
Statistical Enquiry	To understand best practice in survey design and data comparison	Learn how to identify bias in data collection Design and use data collection sheets Use averages and ranges, or the "shape" of a chart to compare two distributions Carry out a survey to collect and compare two different sets of data	**L6HD1** **L6HD5** Revision	Peer, self and teacher assessment STATISTICAL PROJECT **Class Test**

BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 3

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Integers, powers and roots	To understand how to write a number as a product of prime factors To use ICT to estimate square and cube roots To explore the laws of indices for positive integer powers	Write numbers as a product of prime factors and use this to find the highest common factor or lowest common multiple Develop trial and improvement techniques to approximate square and cube roots Research and understand the laws for the multiplication and division of positive integer powers	mymaths task HCF mymaths task Indices 1	Peer, self and teacher assessment Weekly homework
Probability	To identify all possible mutually exclusive outcomes in one and two stage experiments To understand the difference between possibility and probability	Be able to work out probabilities for mutually exclusive events Use sample space and tree diagrams to display the outcomes in 2- stage experiments Compare probability and relative frequency for simple experiments such as the Great Horse Race	**L6HD4** **L6HD3**	Peer, self and teacher assessment Weekly homework

BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 3

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Mental and written calculations and checking	To understand understanding of powers to negative powers of 10 To extend mental methods of calculation to fractions decimals and percentages	Multiply and divide numbers by positive and negative powers of 10 Use rounding to approximate when checking solutions Explore what happens to numbers when they are multiplied or divided by a number between 0 and 1 Use fractions and decimals to solve % problems mentally Apply BIDMAS to problems involving indices	mymaths tasks Significant figures Estimating and Accuracy Revision	Peer, self and teacher assessment Weekly homework **Class Test**

BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 4

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Sequences, functions and graphs	To recognise key features of linear graphs	Plotting linear graphs given in the form $y = a$, $x = b$ $ax + by = c$ *and* $y = mx + c$ Use hand drawn graphs and ICT to explore the gradients of linear graphs given in the form $y = mx + c$ Identifying which points will lie on which graphs	mymaths task Coordinates **L6ALG4**	Peer, self and teacher assessment Weekly homework

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BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 4

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Transformations and coordinates	To explore and combine reflections, translations and rotations in 2D, and reflection in 3D shapes To enlarge shapes by a positive integer scale factor given a centre of enlargement	Explore plans of symmetry in 3D shapes On paper or using ICT, draw combinations of reflections, translations and rotations Describe reflections, rotations and translations fully Explain the difference between enlargement and the other 3 transformations Enlarge shapes from a range of centres	**L6SSM7** **L6SSM6**	Peer, self and teacher assessment Weekly homework
Written calculations	To extend written methods of calculation to decimals	Use efficient written methods to multiply by decimals and divide by decimals Use a calculator efficiently and appropriately to perform complex calculations	mymaths task Multiply 2 decimals Revision	Peer, self and teacher assessment Weekly homework **Class test**

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BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 5

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Sequences and nth terms	To use and generate nth terms for sequences To explore number patterns arising from practical contexts	Use linear nth terms to produce a sequence of numbers Investigate how to produce an nth term for a sequence of numbers Investigate patterns in a practical context such as Joe's Pond Borders	Mymaths task Nth terms	Peer, self and teacher assessment Weekly homework
Sequences functions and graphs: inverse functions and real life graphs	To work out simple inverse functions To use and interpret graphs in real life contexts	Use function machines to work out the inverse function for simple linear functions Investigate the plotting of functions and their inverses on the same graph Understand the essential features of distance time graphs Apply knowledge of straight line graphs to a real life context such as mobile phone tariffs	Investigation write up (e.g. Joes' Pond Borders) **L6ALG5**	PROJECT Weekly homework

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BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 5

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Equations, formulae, identities and expressions	To solve a range of linear equations To work with and rearrange mathematical formulae and expressions	Set up and solve a range of linear equations to Include: Brackets, unknown on both sides , positive and negative solutions Substitute numbers into formulae and expressions from mathematics and other subject areas Rearrange simple formulae Review factorising and expanding expressions	**L6ALG2** Revision	Peer, self and teacher assessment Weekly homework **Class Test**

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BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 6

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Geometrical reasoning: coordinates and construction	To visualise and use 2D representations of 3D objects To use and interpret map scales	Draw accurate nets and construct a range of 3D shapes Match plan views and side elevations of 3D shapes to the correct shapes Understand map scales given in different forms	**L6SSM5**	Peer, self and teacher assessment Weekly homework
Measures and mensuration	To solve problems involving measurements To convert between different metric measures for area and volume	Research and review conversion facts for key metric and metric to imperial conversions Solve a range of problems which require conversion of different measures to the same unit Review key concepts of volume and area Deduce how to convert between metric measures for volume and area such as $1m^2$ into cm^2	Research homework on metric imperial conversions Mymaths task Converting Units	Peer, self and teacher assessment Weekly homework

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BLESSED TRINITY LEARNING PROGRAMME

SUBJECT: Maths - Stage 4 YEAR: 9 Half Term: 6

Title	Learning Objectives	Classroom Activity	Recommended Homework	Marking & Assessment
Measures and mensuration: area and volume	To know and use the formulae for the area and circumference of a circle To work out surface areas of prisms To calculate the volume of prisms	Learn the key parts of a circle Investigate practically the link between the diameter and circumference of a circle. Solve problems using the formulae for area and circumference of a circle Review formulae for the area of the triangle, parallelogram and trapezium Work out the surface area and volume of: cuboids, prisms with cross sections which are triangles, trapeziums, T or L shapes	**L6SSM10** **L6SSM9** Revision	Peer, self and teacher assessment Weekly homework **Class test**