



OVERVIEW	<p>The Maths department at the Lowry Academy aims to provide students with a secure understanding of mathematical knowledge, categorised according to the following areas: number, algebra, geometry, ratio and proportion, probability, and statistics, meeting the needs of the National Curriculum at KS3 and KS4. The focus of the curriculum is to develop procedural knowledge of the fundamental elements of mathematics in order for students to access further problem solving elements and reason mathematically, whilst fostering a love of maths. By the end of Year 9, students will have developed their mathematical skills within the different areas of Maths (number, algebra, ratio and proportion, geometry, probability and statistics).</p>		
AUTUMN	<ul style="list-style-type: none"> 9.01 Decimal Manipulation – Applying all four operations 9.02 Estimation and limits of accuracy – Rounding to one significant figures and using inequality notation to write error intervals 9.03 Related calculations 9.04 HCF and LCM of large numbers – Use prime factor decomposition and VENN diagrams to find the LCM and HCF 9.05 Fraction Calculations – Applying all four operations, finding the fraction of an amount and finding the reciprocal 9.06 Algebraic Manipulation – Collecting like terms, simplifying expressions and 4 operations with algebraic numerators 9.07 Index Laws – Negative and fractional indices 9.08 Standard Form – Converting and calculating with standard form 9.09 Expanding and Factorising – Double brackets, factorising quadratics and the difference of two squares 	ASSESSMENT	PERSONAL DEVELOPMENT
SPRING	<ul style="list-style-type: none"> 9.10 Forming expressions and substitution – Substitution into algebraic formulae and basic functions 9.11 Direct and inverse proportion – Exchange rates, best buys and conversion graphs 9.12 Probability – Scale, two way tables, sample space, set notation and VENN diagrams 9.13 Solving equations – One step, two steps and unknowns 9.14 Inequalities – Solving inequalities in one and two variables and represent on a number line 9.15 Sequences – Finding the nth term of a linear sequence 	ASSESSMENT	PERSONAL DEVELOPMENT
SUMMER	<ul style="list-style-type: none"> 9.16 Pythagoras – Finding the missing sides and justification 9.17 Interior and Exterior Angles – Interior and exterior of regular polygons including the total sum 9.18 Vectors – Addition and subtraction of column vectors 9.19 Transformations – Reflection, rotation, translation and enlargement 9.20 Plans and Elevations – Construct and draw 3D shapes 9.21 Arcs and Sectors – Define parts and use the formula correctly 9.22 Surface Area – Sketching the net and finding the surface area of cuboids, pyramids, spheres, cones and composite solids. 	ASSESSMENT	PERSONAL DEVELOPMENT

ASSESSMENT

Within the autumn term, year 9 students will be assessed through:

KPI tests (after each topic), feedback sheets (twice per half term) and fluency Friday (fortnightly).

PERSONAL DEVELOPMENT

The Maths Department look for opportunities throughout the year to enrich the curriculum through trips and guest speakers. During each half term there is a Reading to Learn Opportunity, in which we look at the life and work of influential mathematicians and the political and equality battles they faced.

ASSESSMENT

Year 9 students will be given a mid-year assessment within Maths. In addition they will also complete the following:

KPI tests (after each topic), feedback sheets (twice per half term) and fluency Friday (fortnightly).

PERSONAL DEVELOPMENT

We also enable our students to become involved with the UK maths challenge and MESME circles whereby resilience continues to be developed and also weekly SPARX clubs to develop their key mathematical skills further. Chess club also takes place weekly whereby students are given the opportunity to logically think through problems and build confidence.

ASSESSMENT

Year 9 students will be given an end of year assessment within Maths. In addition they will also complete the following:

KPI tests (after each topic), feedback sheets (twice per half term) and fluency Friday (fortnightly).

PERSONAL DEVELOPMENT

We also enable our students to become involved with the UK maths challenge and MESME circles whereby resilience continues to be developed and also weekly SPARX clubs to develop their key mathematical skills further. Chess club also takes place weekly whereby students are given the opportunity to logically think through problems and build confidence.

Useful resources for supporting your child at home:

- Corbett Maths
- BBC Bitesize
- Maths Genie
- SPARX

Homework

Students will complete weekly homework on SPARX (online platform) Homework is set every Friday (4pm) and due in every Friday (4pm) SPARX club is available during every lunch time (L8) There is also a SPARX club available to attend every Tuesday in L6 and every Thursday in P5.