Maths
Year 8

The Lowry Academy
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OVERVIEW

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 8, students will have developed their mathematical skills within the different areas of Maths (number, algebra, ratio and proportion, geometry, probability and statistics).

AUTUMN

- 8.01 Powers and Roots – Recognising powers of 2,3,4 and 5
- 8.02 Prime Factorisation – Prime numbers, factors and prime factor decomposition
- 8.03 Rounding – Rounding to a number of decimal places or significant figures
- 8.04 Fractions – Multiply and divide fractions and mixed numbers
- 8.05 Negative number review – 4 operations with negative numbers
- 8.06 Solving Equations 1 – Solving linear equations in one variable
- 8.07 Coordinates and basic graphs – Plotting, reading and problem solving with coordinates
- 8.08 Units of Measurements – Using standard units of mass, length, time and money including with decimal quantities

ASSESSMENT

Within the autumn term, year 8 students will be assessed through:

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

SPRING

- 8.09 Angles in Parallel lines – Understand and use the relationship between parallel lines and alternate and corresponding angles
- 8.10 Circumference – Solving problems involving the perimeter of 2D and composite shapes
- 8.11 Direct Proportion – The relationship between two quantities can be expressed as a ratio or fraction
- 8.12 Fractions, decimals and percentages – Converting between all three
- 8.13 Percentage Calculations – Percentage chance, increase and decrease. Original value problems and simple interest
- 8.14 Ratio – Dividing into a given part: part or part: whole ratio

ASSESSMENT

Year 8 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).

SUMMER

- 8.15 Area of a circle and trapezium – Derive and apple the formula to solve problems
- 8.16 Statistics 1 – Construct and interpret tables, charts and stem and leaf data
- 8.17 Averages and spread – Mean, mode, median and range
- 8.18 3D Visualisation – Using the properties of faces, surfaces, edges and vertices
- 8.19 Volume 1 – Derive and apply formulae for 3D shapes

ASSESSMENT

Year 8 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

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.

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.