Subject: Mathematics

Head of Department: Ms D. Moore

Curriculum Intent

Hornchurch High School's Maths department equips students with the mathematical fluency and reasoning needed to tackle problems. Our curriculum is logically sequenced such that knowledge and skills are developed cumulatively, which ensures students are appropriately challenged and able to make links between mathematical strands. Our essential wider curriculum - including trips, workshops, competitions and access to careers advice - serves to provide our students with an appreciation of the application of maths to the world around them. We strive to ensure all students, regardless of their starting points, are able to master threshold concepts and cultivate a deeper understanding of the subject which, in turn, develops their confidence and resilience both in and outside the classroom. Indeed, students will leave us equipped with the ability to methodically analyse and break down problems – a skill transferable to any position they upheld in wider society - as well as the qualifications they require to move on their chosen next steps.

Year 7 Topics

- Autumn Term 1 – Place value, multiplication and division
- Autumn Term 2 – Fractions, decimals, negative numbers
- Spring Term 1 – Algebra
- Spring Term 2 – Representing data, ratio
- Summer Term 1 – Probability, angles, converting units
- Summer Term 2 – Revision

Year 8 Topics

- Autumn Term 1 – Algebra, powers, averages
- Autumn Term 2 – Percentages, ratio and proportion
- Spring Term 1 – Transformations, representing data
- Spring Term 2 – Circles, decimals
- Summer Term 1 – 3D shapes, probability, angles
- Summer Term 2 – Similarity and congruency, revision

Year 9 Topics

- Autumn Term 1 – Compound measures, number
- Autumn Term 2 – Angles, scales, constructions, right-angled triangles
- Spring Term 1 – Sequences, straight line graphs, algebra
- Spring Term 2 – Venn diagrams, ratio and proportion

- Summer Term 1 – Percentages, transformations
- Summer Term 2 – 3D shapes, similarity and congruency

Year 10 Topics

- Autumn Term 1 – Number, representing data
- Autumn Term 2 – Probability, area and perimeter (F), ratio (F), algebra (H)
- Spring Term 1 – Pythagoras' Theorem, trigonometry, angles (F), similarity and congruency (H)
- Spring Term 2 – Compound measure, transformations, 3D shapes (H)
- Summer Term 1 – Algebra (F), angles (H), circle theorems (H), algebraic fractions (H)
- Summer Term 2 – Revision

Year 11 Foundation Topics

- Autumn Term 1 – Percentages, linear graphs, quadratics
- Autumn Term 2 – Vectors, 2D shapes
- Spring Term 1 – 3D shapes
- Spring Term 2 – Algebra
- Summer Term 1 – Revision
- Summer Term 2 – GCSE exams

Year 11 Higher Topics

- Autumn Term 1 – Proportion, trigonometry, surds, representing data
- Autumn Term 2 – Functions, bearings, simultaneous equations
- Spring Term 1 – Similarity and congruency, real life graphs
- Spring Term 2 – Vectors, circle theorem proof
- Summer Term 1 – Revision
- Summer Term 2 – GCSE exams

GCSE Specification Details and Assessment:

Edexcel GCSE Maths 1MA1

https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specification-and-sample-assesment/gcse-maths-2015-specification.pdf

Spiritual, moral, social and cultural development (SMSC)

We teach real life maths-related skills, such as how to understand a pay check, how tax brackets work and how to budget, as well as link the subject to different cultures; for example, the history of Sudoku, the work of black mathematicians in the US and UK since 1900 and the origins of number systems. We also make explicit connections between some of the units we teach and their real life significance, such as the importance of ratio in careers such as building and construction and hairdressing, or the appreciation for numerical skills - such as mental arithmetic, fractions and percentages – in and outside of the workplace.

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