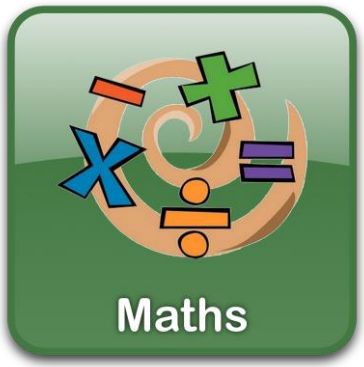
Subject:- Maths

Head of Department: - Mr Yusuf

Teachers in this department: - Mr Yusuf, Mr Iyawa, Mr Standen, Miss Lo-Pon, Mr Marshall, Mr Sykes, Mr Mercer



Year 7 overview

In terms 1 and 2 students will work on their number skills; these are the core skills needed to access the rest of the year's curriculum. Once students have mastered their number skills they are ready to tackle the algebra topics in terms 3 and 4. After they have built a strong foundation in algebra they are progressed onto the basic Euclidean Geometry and statistical theories in terms 5 and 6. Throughout the year students will work on their times table skills though an organised programme of practice that builds students' speed and confidence.

Year 7 overview

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
-Place value -Rounding -Adding and subtracting, multiplying and dividing (integers and decimals) -Negative numbers (all 4 operations) -Squares, cubes and roots -Factors, multiples and prime numbers	-Understanding fractions -Convert between improper fractions as a mixed numbers -Fractions of amounts -Convert between fractions, decimals and percentages -Calculate the percentage of a given amount -Adding, subtracting, multiplying and dividing fractions	-Equations, formulae, and expressions -Substitution -Solving simple equations -Simplifying algebraic expressions -Expanding single brackets -Factorising single brackets	-Sequences -Number machines -Plotting and identifying coordinates -Using distance time graphs -Conversion graphs and real life graphs -Drawing linear graphs (of the form y = mx + c)	-Measuring and drawing lines and angles -Angle properties Perimeter (rectangles, triangles and compound shapes) -Area (triangles, rectangles and parallelograms) -Surface area and volume of a prism -2D similar shapes -Describe and transform 2D shapes (rotate, enlarge, reflect, translate)	-Produce and interpret: -pictograms -bar charts -line graphs -stem and leaf diagrams -pie charts -Calculate the mean, mode, median and range for discrete data EOY Test

Year 8 overview

Building on the knowledge and skills mastered in year 7 students further develop their numeracy skills and understanding of numbers in terms 1 and 2. In terms 3 and 4 students build on their understanding of algebra to tackle quadratic expressions and equations of linear functions. In terms 5 and 6 students a progressed onto more complex Euclidean Geometry and probability in terms 5 and 6. Throughout the year students continue to work on their times table skills though an organised programme of practice that further increases students' speed and confidence.

Year 8 overview

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
-Using one calculation to find the answer to another -Estimating answers -Best Buys -Proportion problems -Expressing a number as a product of its prime factors -Highest Common Factor (HCF) and Lowest Common Multiple (LCM)	-Percentage increase or decrease -Write one number as a percentage of another number -Simplify Ratio -Find equivalent ratios -Share by a given ratio	-Rearrange simple equations -Solving linear equations and inequalities -Expanding and factorising quadratic expressions (including using the difference of two squares)	-Generating sequences from an nth term rule -Finding the midpoint of a line segment -Understanding y = mx + c -Draw distance time graphs and velocity time graphs	-Solving area problems -Finding the circumference and area of a circle -Finding the surface area and volume of cylinders -Bearings -Drawing column vectors and identifying parallel vectors -Adding, subtracting and multiplying (by a scalar) vectors	-The Probability Scale -Using probabilities -Listing outcomes systematically -Calculate the mean, median and mode from a frequency table -Scatter graphs -Correlation (understand that correlation does not imply causality) EOY Assessment

Year 9 Overview

In year 9 students are taught up to GCSE grade 5 level, taking their first GCSE practice assessment paper at the end of the year. This assessment will determine which tier of assessment (Higher or Foundation) students will take for their GCSE. Throughout the year students continue to develop their skills by approaching increasingly challenging mathematical concepts in number theory; algebraic manipulation; Euclidian Geometry; Probability and Statistics.

Year 9 Overview

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
-Standard Form -Indices -Compound measures (Speed, Density and Pressure) -Converting between units	-Exchange rate problems -Compound interest and depreciation -Reverse percentages -Percentage Change -Writing a ratio as a fraction or as a linear function	-Forming and solving equations -Changing the subject of a formula Solving simultaneous equations -Algebraic proof questions	-Finding the nth term -Finding the gradient of a straight line -Finding the equation of the line -Drawing quadratic, cubic and reciprocal functions -Using quadratic graphs Solving quadratic equations	-Regular polygons -Corresponding and alternate angles -Surface area and volume of 3D shapes -Pythagoras' theorem -Trigonometry -Arc Lengths and Sector Areas -Congruence for triangles -Construction	-Estimate the mean of grouped data -Probability trees -Venn diagrams -Union and intersection notation GCSE Foundation Assessment

Year 10 Overview

In year 10 students either work through the GCSE Foundation or GCSE Higher Edexcel Scheme of Work. There will be regular GCSE style assessments to determine the attainment of students and ensure that all students are progressing.

Year 10 Overview

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
GCSE Foundation -Integers and place value -Decimals -Indices, powers and roots -Factors, multiples and primes -Algebra: the basics -Expressions and substitution into formulae	-Tables, charts and graphs -Pie charts -Scatter graphs -Fractions, decimals and percentages	-Equations and inequalities -Sequences -Properties of shapes, parallel lines and angle facts -Interior and exterior angles of polygons	-Statistics, sampling and the averages -Perimeter, area and volume -Real-life graphs -Straight-line graphs	-Transformations -Ratio -Proportion -Right-angled triangles: Pythagoras and trigonometry	-Probability -Multiplicative reasoning -Plans and elevations -Constructions, loci and bearings
GCSE Higher -Calculations, checking and rounding -Indices, roots, reciprocals and hierarchy of operations -Factors, multiples, primes, standard form and surds -Algebra: the basics, setting up, rearranging and solving equations -Sequences	-Averages and range -Representing and interpreting data and scatter graphs -Fractions and percentages -Ratio and proportion	-Polygons, angles and parallel lines -Pythagoras' Theorem and trigonometry -Graphs: the basics and real-life graphs -Linear graphs and coordinate geometry -Quadratic, cubic and other graphs	-Perimeter, area and circles -3D forms and volume, cylinders, cones and spheres -Accuracy and bounds -Transformations -Constructions, loci and bearings	-Solving quadratic and simultaneous equations -Inequalities -Probability -Multiplicative reasoning	-Similarity and congruence in 2D and 3D -Graphs of trigonometric functions -Further trigonometry -Collecting data -Cumulative frequency, box plots and histograms

Year 11 Overview

In year 11 students continue to work through the GCSE Foundation or GCSE Higher Edexcel Scheme of Work. Students will complete the course by the end of term 2. Work in class will be focused on exam practice and a careful analysis to identify and eliminate students' weaknesses.

Year 11 Overview

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
GCSE Foundation -Quadratic equations: expanding and factorising -Quadratic equations: graphs -Circles, cylinders, cones and spheres -Fractions and reciprocals -Indices and standard form	-Similarity and congruence in 2D -Vectors -Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations	Revision	Revision	Revision	Revision
GCSE Higher -Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics -Circle theorems -Circle geometry Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof	-Vectors and geometric proof -Reciprocal and exponential graphs; -Gradient and area under graphs -Direct and inverse proportion	Revision	Revision	Revision	Revision