

Mathematics

KS3 & KS4

Mission statement

The mission of the Mathematics department is to provide an environment where students can learn and become competent users of mathematics, master variety of mathematical concepts and efficiently apply them in real-life problem solving . We put our students and their success at the heart of everything we do, therefore we aim to deliver high-standard of education using innovative and creative approaches to introduce the curriculum to our learners.

We aim to encourage pupils to take part in a range of different activities and experiences. We promote independence of thought, sharing ideas in group discussions, developing communication skills. As a team we share real passion and love for Mathematics as a subject and our target is to transfer this inspiration towards our students by presenting the learning of Mathematics as a fun, using variety of interactive tasks, visual models and manipulatives. Developing positive approach in teaching and learning Mathematics as a skill growing strategy allows students to participate in advanced learning, become independent thinkers and solve problems on their own.

The maths curriculum gradually build up which allows students to build an extensive knowledge base at Key Stage 3 in preparation for Key Stage 4. All students will experience the subject content organised into the following broad topic areas : number, geometry, algebra, ratio and proportion, probability and statistics.

Year 7-9 (Key Stage 3) Calendar overview

Year 7

Autumn	Spring	Summer
Analysing and Displaying data	Fractions and Percentages	Lines and Angles
Number Skills	Probability	Sequence and Graph
Expression Function and Formula	Ratio and Proportion	Transformation
Decimals and Measure		

Year 8

Autumn	Spring	Summer
Number	Real Life Graphs	Calculating with Fractions
Area and Volume	Decimals and Ratio	Straight -Line Graphs
Statistics Graph and Charts	Lines and Angles	Percentages, decimals and fractions
Statistics Graph and Charts		

Year 9

Autumn	Spring	Summer
Indices and Standard Form	Construction	Graphs
Expression and Formulae	Sequence, Inequalities, Equations and Proportion	Probability
Dealing with Data	Circles, Pythagoras and Prism	Comparing Shapes
Multiplicative Reasoning		

Key Stage 4

What type of course and examination board do you follow?

The Mathematics Department at Southchurch High School follow a Linear GCSE Course.

We follow The Edexcel Examination Board. Further information is available from

<https://qualifications.pearson.com/en/qualifications/edexcel-gcses.html>

GCSE Mathematics has a Foundation tier (grades 1 – 5) and a Higher tier (grades 4 – 9).

Students must take three question papers at the same tier and all question papers must be taken in the same series.

The information in the table below is the same for both Foundation and Higher tiers.

Paper	Description	Length	Marks	Weighting
1	Non-Calculator Paper	(1 hour 30 minutes)	80	33%
2	Calculator Paper	(1 hour 30 minutes)	80	33%
3	Calculator Paper	(1 hour 30 minutes)	80	33%

Information about the exam structure by topic you can find below. **The table below shows the approximate weightings of the topic areas for the overall tier of assessment, **not** for each individual question paper.*

Topic Area	Foundation Exam Weighting	Higher Exam Weighting
Number	22 - 28%	12 - 18%
Algebra	17 - 23%	27 - 33%
Ratio, Proportion & Rates of Change	22 - 28%	17 - 23%
Geometry & Measures	12 - 18%	17 - 23%
Probability & Statistics	12 - 18%	12 - 18%

Year 10 Calendar Overview

Tier	Autumn		Spring		Summer	
Higher	Number	Fraction Ratio and Percentage	Area and Volume	Probability	More Trigonometry	Equations and Graphs
	Algebra		Transformation and Construction	Multiplicative Reasoning		
	Interpreting and Represent Data	Angles and Trigonometry	Equation and Inequalities	Similarity And Congruency	Further Statistics	
Foundation	Number	Fractions and Percentages	Averages and Range	Transformation	Probability	Constructing, Loci and Bearing
	Algebra	Equations, Inequalities, and Sequences		Perimeter, Area and Volume	Ratio and Proportion	
	Statistics: Charts Tables and Averages		Angles	Graphs	Right- angle Triangle	

Year 11 Calendar Overview

Tier	Autumn		Spring		Summer	
Higher	Circle theorems Similarity and congruency in 2D and 3D	Function notation Further trigonometry	Direct and indirect proportion	Revision	Revision	GCSE
	Surds	Quadratics, expanding trinomials, sketching graphs	Reciprocal and exponential graphs	Past paper questions	Past paper questions	
	Algebraic fractions	Graphs of trigonometric functions	Gradient and area under graph	Walking talking mocks	Walking talking mocks	
	Further changing the subject of the formula	Histograms Circle geometry Vectors and geometric proof				
Foundation	Fractions	Transformations	Fractions and reciprocals	Revision	Revision	GCSE
	Percentages	Ratio	Indices and standard form	Past paper questions	Past paper questions	
	Equations	Proportion	Vectors	Walking talking mocks	Walking talking mocks	
	Inequalities	Pythagoras' Theorem	Rearranging equations			
	Sequences	Trigonometry	Graphs of cubic and reciprocal functions			
	Statistics and sampling Straight line graphs	Plans and elevations Bearings	Compound interest and depreciation			

Assessment: Tracking student performance and data is a vital process in our work. This is the way we can learn and reflect on our teaching methods and practice, analysing the strengths, knowing the modules where our student perform well, but also identifying the areas for development – for examples what are the learning barriers that together with our learners we have to overcome.

All students have to sit an End of Term test (AP1, AP2 and AP3) scheduled for different year groups differently according to the school calendar. Also, students are expected to sit End of unit tests for completing different modules from the maths syllabus. These scores and grades achieved are recorded and monitored for progress. Students are required to attempt one written HW once every two weeks (fortnightly). The worksheet will be provided by the teacher and uploaded onto MS Teams for update.