



Y12 Core Maths Curriculum Overview: AQA Level 3 Mathematical Studies



	Topics / Content Outline	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Half Term 1	(1) Percentages & Bounds (2) Interest Rates (3) Data Types, Collection & Sampling (4) Data Analysis – Number	<p>Understanding percentage multipliers, percentage change, original value problems and increase and decrease problems.</p> <p>Simple and compound interest, Annual Equivalent Rate (AER) and Savings and investments.</p> <p>Understanding terms such as qualitative, quantitative, primary, secondary, discrete, continuous in relation to data.</p> <p>Understanding what sampling is and the differences between the different methods (random, cluster, stratified and quota).</p> <p>Work with averages and measures of spread and developing relative calculator skills.</p>	<p><u>Topic Tests</u></p> <p>Small assessments will be completed at the end of each topic, with 4 topic tests being complete in Autumn Term 1.</p>	<p><u>Calculators</u></p> <p>The Core Maths course places a great deal of focus on effective use of calculators and there are some essential programs that can only be performed on specific models. If you can ensure students come properly equipped to the course by purchasing the calculator recommended by the department, this will ensure they make the best start to the course.</p>
	Autumn Half Term 2	(5) Spreadsheets (6) Financial Problems (7) Fermi Estimations (8) Data Analysis – Diagrams (9) Normal Distribution	<p>Reviewing the effect of inflation and introducing Retail Price Index (RPI) & Consumer Price Index (CPI).</p> <p>Reviewing compound interest and iterative problems including currency exchange and budgeting.</p> <p>Fermi estimation - making fast, rough estimates using quantities which are either difficult or impossible to measure directly</p> <p>Constructing and interpreting Histograms, Boxplots, Cumulative Frequency Diagrams and Stem and Leaf diagrams</p> <p>Understanding the concept of a Normal distribution and apply it to questions regarding proportion and probability.</p>	
Spring Half Term 1		(10) Repayments & Credit (11) Taxation (12) Correlation & Regression (13) Probabilities & Estimates	<p>Key financial concepts include: Student Loans Mortgages, Annual Percentage Rate (APR), Value Added Tax (VAT), Income Tax, National Insurance.</p> <p>Review and recognise correlation, investigating how correlation does not imply causation and how formal estimations can be made using a regression equation. Focus on a use of calculator skills when tackling these problems.</p> <p>Product Moment Correlation Coefficient – Used to measure the strength and type of correlation.</p> <p>Confidence Intervals – Building on knowledge of sampling to use point estimates (means of a sample) to estimate mean of a population.</p>	<p><u>Topic Tests</u></p> <p>Small assessments will be completed at the end of each topic, culminating with 4 topic tests being complete in Spring Term 1.</p>

Autumn Half Term 1

Autumn Half Term 2

Spring Half Term 1



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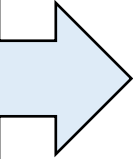
Topics / Content Outline

Powerful Knowledge (key concepts, skills)

What will you be assessed on?

How can you help at home?

**Spring Half
Term 2**



- GCSE Key Skills
- Revision
- Exam Preparation
- Pre-release Practice

Pupils will look through GCSE key skills and how these may help in relation to topics like Fermi Estimation.

Pupils will revise course in preparation for Core Maths mock paper.

When pre-release material is released pupils will spend time analysing these, critically analysing graphs, table and the language used throughout.

Will begin to predict types of questions that could be asked in both Paper 1 (Fermi Estimation) and Paper 2A (Critical Analysis).

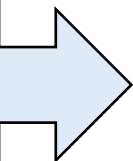
Mock Core Maths Assessment

In the build up to the official papers in Summer and having finished the course content, pupils will be assessed on two mock papers. These papers will have been adapted to test students on the preliminary material that has also been made available to them during this half term.

Mock Reflection and Practise

Students' lessons will centre around past paper practise as well as preparing for their mocks at this time. Parents and carers can help by encouraging this practise, making sure they are aware of where to find these resources. Encouragement to attend in school interventions to respond to areas of development would also be most beneficial.

**Summer
Half Term 1**



Core Maths Paper 1 - 1 hour 30 minutes – 60 Marks

Core Maths Paper 2a Statistical Techniques - 1 hour 30 minutes – 60 Marks