

# Level 3

## MATHEMATICAL STUDIES

## Maths Virtual Communities: Developing the Teaching of Level 3 Mathematical Studies

## Resource booklet

Published: Autumn 2022

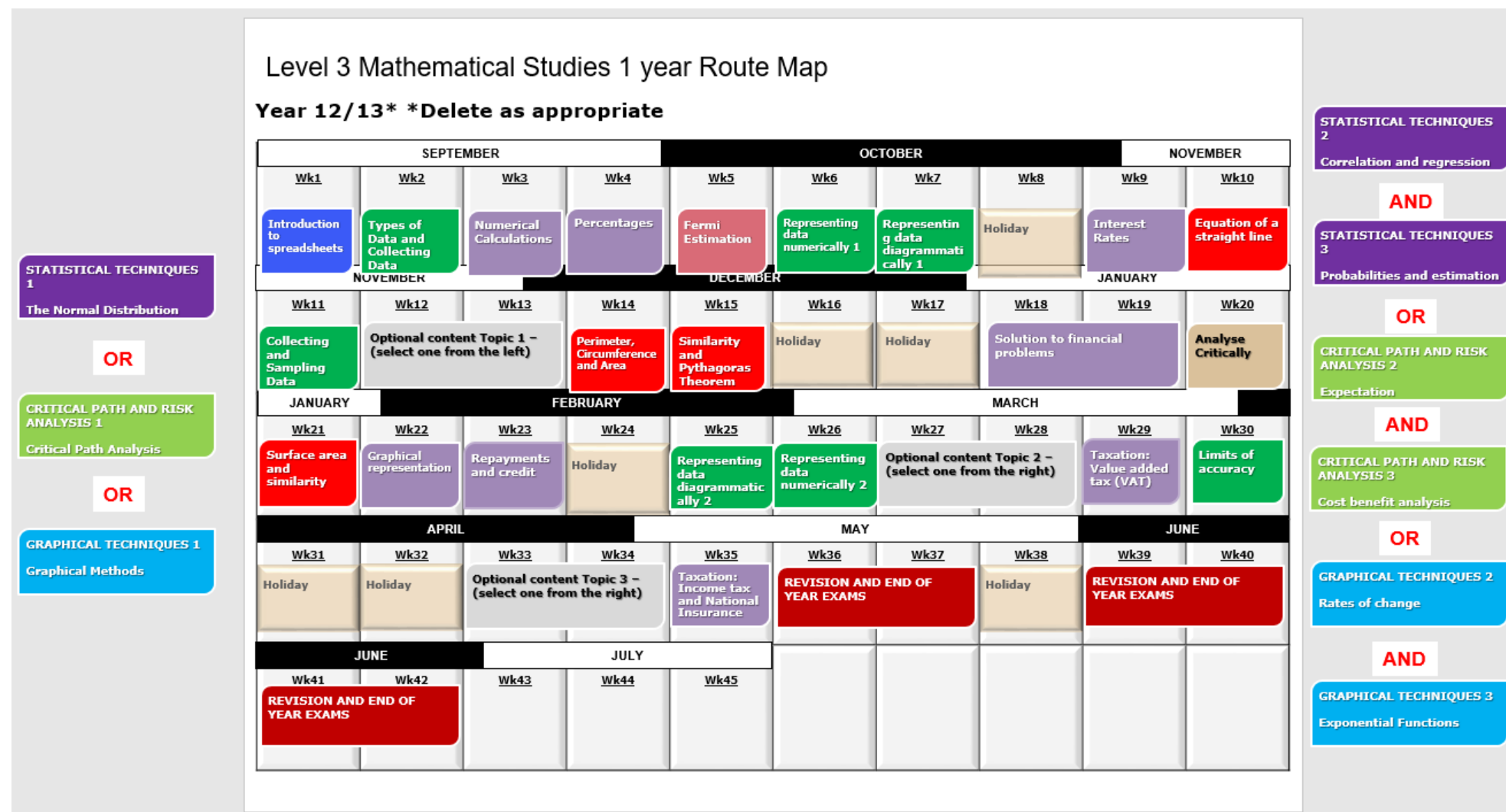




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# Level 3 Mathematical Studies 1 year Route Map



## Fermi Estimation

	Subject content:	Online resources:
E2.1	<ul style="list-style-type: none"> <li>➤ Fermi estimation - making fast, rough estimates using quantities which are either difficult or impossible to measure directly</li> </ul>	<ul style="list-style-type: none"> <li>➤ <a href="#">How should mathematics be taught to non-mathematicians? - Tim Gower's Blog</a></li> <li>➤ <a href="#">Classic Fermi Questions – Mathsforum</a></li> <li>➤ <a href="#">Fermi Maths Problems – Kidsjig</a></li> <li>➤ <a href="#">Estimation - MathsIsFun</a></li> <li>➤ <a href="#">How many piano tuners are there in Chicago? – TES</a></li> <li>➤ <a href="#">Fermi Problems - TES</a></li> <li>➤ <a href="#">Making estimations from limited data</a> (Username: mei-criticalmaths Password: Critical1)</li> <li>➤ <a href="#">Fermi Estimates</a> (Username: mei-criticalmaths Password: Critical1)</li> <li>➤ <a href="#">Horse Manure - Core Maths</a></li> <li>➤ <a href="#">Skin Area - Core Maths</a></li> <li>➤ <a href="#">Estimation, Assumptions and Predictions – Core Maths</a></li> </ul>
F1.1	<ul style="list-style-type: none"> <li>➤ substituting numerical values into financial expressions (including bank accounts)</li> </ul>	<ul style="list-style-type: none"> <li>➤ <a href="#">Income Tax - Nuffield Foundation</a></li> <li>➤ <a href="#">Savings Growth - Nuffield Foundation</a></li> <li>➤ <a href="#">Savings Facts and Formulae - Nuffield Foundation</a></li> <li>➤ <a href="#">Growth and Decay - Nuffield Foundations</a></li> </ul>
F1.4	<ul style="list-style-type: none"> <li>➤ finding approximate solutions to problems in financial contexts</li> </ul>	

## Sequencing of topic

	September				October			November				December				
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7		Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	
Autumn	INSET	Intro and Firm Estimation	Spread-sheets	Numerical methods and percentages		Personal Finance		Half Term	Personal Finance				Assessment	Analysis of Data		Chritmas Holidays
Spring	January				February			March					April			
	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21		Week 22	Week 23	Week 24	Week 25	Week 26			
	Analysis of Data						Assessment	Half Term	Normal Distribution and Confidence Intervals					Easter Holidays		
Summer	April		May					June				July				
	Week 27	Week 28	Week 29	Week 30	Week 31	Week 32		Week 33	Week 34	Week 35	Week 36	Week 37	Week 38	Week 39	Week 40	
	Correlation and Regression				Assessment	Preliminary Material	Half Term	Revision		Trial Exams	Review Trial Exams DESMOS and analysis of data; project Work					

	September				October			November				December				
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7		Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	
Autumn	INSET	Critical Analysis			Preliminary Material (and revision)		(Optional Mock Exam)	Half Term	Modelling and Estimation		Assessment	Tax, NI and Student Loan Revision		Data collection revision	Chritmas Holidays	
Spring	January				February			March					April			
	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21		Week 22	Week 23	Week 24	Week 25	Week 26			
	Normal Distribution and Confidence Intervals revision		Savings and Borrowings Revision		Statistical Analysis Revision		Assessment	Half Term	Preliminary Material		Correlation and Regression revision		Inflation Revision	Easter Holidays		
Summer	April		May					June				July				
	Week 27	Week 28	Week 29	Week 30	Week 31	Week 32		Week 33	Week 34	Week 35	Week 36	Week 37	Week 38	Week 39	Week 40	
	Paper 1 Revision	Mock Paper 1	Paper 2 Revision	Mock Paper 2	Final Revision		Half Term									

## Useful resources and links

### AQA Website:

Specification: [AQA](#) | [AQA Certificate](#) | [Level 3 Mathematical Studies](#) | [Specification at a glance](#)

Past papers: [AQA](#) | [AQA Certificate](#) | [Level 3 Mathematical Studies](#) | [Assessment resources](#)

Textbook information: [AQA](#) | [AQA Certificate](#) | [Level 3 Mathematical Studies](#) | [Teaching resources](#)

### All About Maths:

Home page including links to case studies: [AQA All About Maths - Level 3 Mathematical Studies \(Core Maths\)](#)

Past papers: [AQA All About Maths - Past papers](#)

Mock Exam Analysers: [AQA All About Maths - Mock exam analysers](#)

Practice papers: [AQA All About Maths - Practice papers](#)

Additional practice questions: [AQA All About Maths - Additional practice questions](#)

Route maps: [AQA All About Maths - Route maps](#)

Teaching guidance: [AQA All About Maths - Teaching guidance](#)

Lesson plans and supporting resources: [AQA All About Maths - Lesson plans and supporting resources](#)

Maths content in other A-levels: [AQA All About Maths - Maths content in other A-levels](#)

Events materials: [AQA All About Maths - Events materials L3 Further Maths](#)

### Other resource links:

AMSP: [amsp.org.uk/teachers/core-maths](https://amsp.org.uk/teachers/core-maths)

STEM: [stem.org.uk/core-maths/resources](https://stem.org.uk/core-maths/resources)

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Catherine Van Sarloos Padlet: [padlet.com/catherine\\_vansaarloos/GettingStartedwithCoreMaths](https://padlet.com/catherine_vansaarloos/GettingStartedwithCoreMaths)  
[reflectivemaths.wordpress.com](https://reflectivemaths.wordpress.com) @reflectivemaths

Jon Pritchard AQA Mathematical Studies Padlet: [padlet.com/lastcenturion1985/CoreMathsAQA](https://padlet.com/lastcenturion1985/CoreMathsAQA)  
@last\_centurion  
[mathszest.com](https://mathszest.com) @mathszest

[How to Get Lucky, RI Christmas Lectures 2019 Episode 1](#) – Data analysis from mathematicians at Liverpool FC

A story about a chart: [threadreaderapp.com/thread/1228279325344051200.html](https://threadreaderapp.com/thread/1228279325344051200.html)

Sources of data:

[ons.gov.uk/](https://ons.gov.uk/)

[ourworldindata.org/](https://ourworldindata.org/)

[mathcs.org/statistics/datasets/index.html](https://mathcs.org/statistics/datasets/index.html)

[rgs.org/curateddatasets/](https://rgs.org/curateddatasets/)

[skewthescript.org/](https://skewthescript.org/)

Questions Inspired by a News Story: [guibans.blogspot.com/](https://guibans.blogspot.com/)

Relative Chance v Absolute Chance: [youtube.com/watch?v=1jOBRkr3f1Y](https://youtube.com/watch?v=1jOBRkr3f1Y)



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## Notes

Our Level 3 Certificate in Mathematical Studies, or Core Maths, as it is sometimes called, grows in popularity every year, more schools and colleges are offering it and more students want the opportunity to take it.

Please take five minutes to [complete this quick survey](#) and help us to better support teachers and widen student participation.

We want to make sure that we are set up to help teachers in schools and colleges to successfully deliver this qualification. Whether you are currently offering Core Maths with AQA or another board, or not at all, we are interested in your views.

The survey will be open until **Wednesday 30<sup>th</sup> November**, so please do take this opportunity to tell us what you think.

Thank you and best wishes,

Carly Hayton  
Curriculum Manager: Maths

## Contact us

Our friendly team will be happy to support you between 8am and 5pm, Monday to Friday.

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**Email:** [maths@aqa.org.uk](mailto:maths@aqa.org.uk)

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[aqa.org.uk](http://aqa.org.uk)