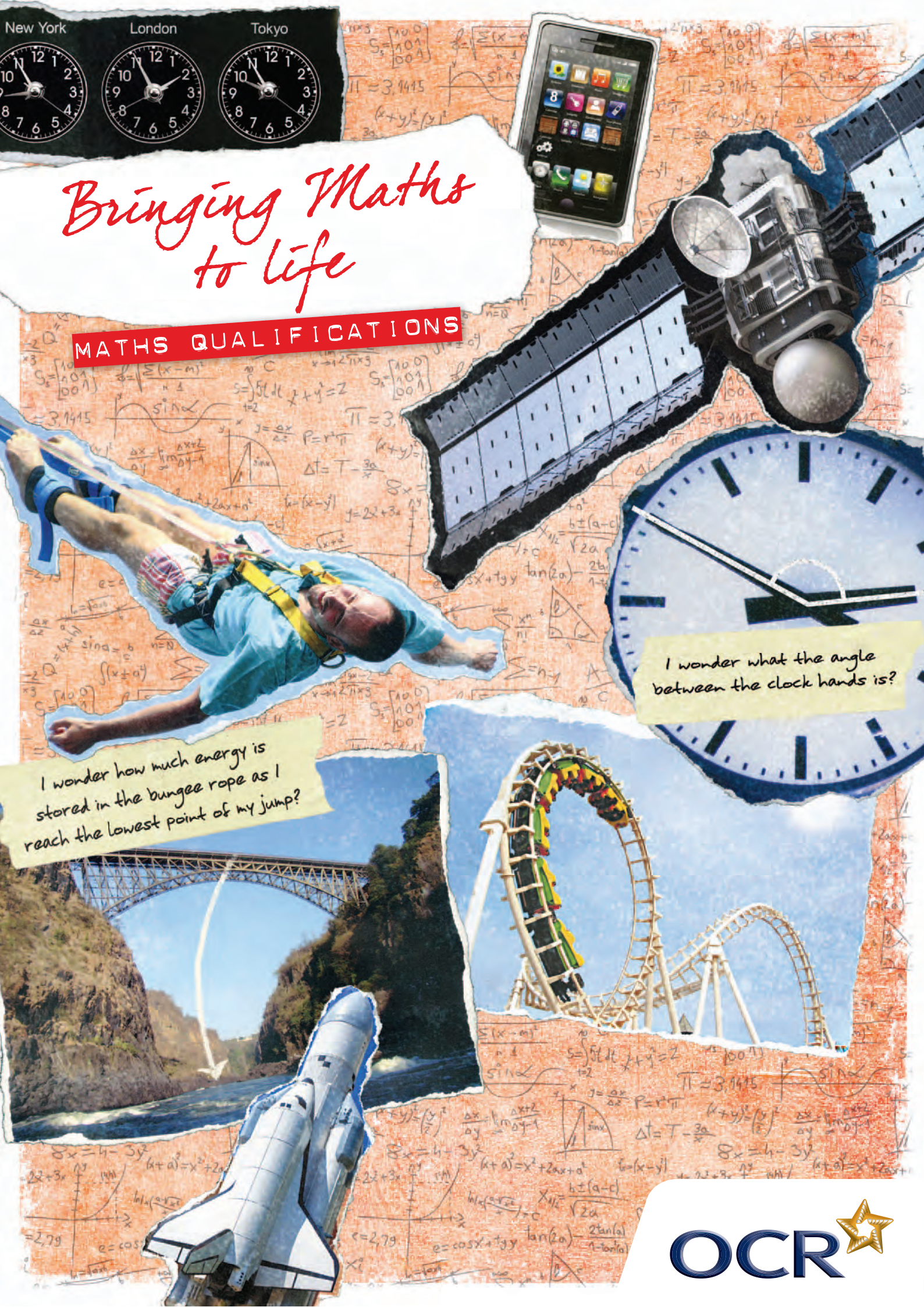

Bringing Maths to life

MATHS QUALIFICATIONS

I wonder what the angle between the clock hands is?

I wonder how much energy is stored in the bungee rope as I reach the lowest point of my jump?

OCR

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INTRODUCING OCR

Choose OCR and you've got the reassurance that you're working with one of the UK's leading awarding bodies. We're part of the Cambridge Assessment Group – Europe's largest assessment agency and a department of the University of Cambridge. Over 13,000 centres choose our A Levels, GCSEs and vocational qualifications including our Nationals, NVQs and Basic Skills. Achievement is what we're all about: helping you, your students, and everyone who has an experience with OCR to achieve – to build a better future for all.

MATHS QUALIFICATIONS
Unleash the power of numbers

We are dedicated to helping you make the most of your passion for maths. So we believe in developing specifications that help you bring this fascinating subject to life – making it more likely that your students will engage with it and achieve more. And it doesn't stop there.

We also want to listen to and learn from you to help us improve our services even more. That way we can be sure that you and your students get as much as possible from our qualifications, and that there's reward and fulfilment for everyone involved.

We've created carefully-planned Mathematics qualifications for students of all ages and abilities. They're qualifications that employers, colleges and universities recognise and value. And they're designed to help you truly bring maths to life.

"We felt that, as with the double GCSE, it [OCR's linked pair GCSE Mathematics] presented all our students with two opportunities to achieve a GCSE Mathematics qualification. We also liked the style of the OCR paper. It is not as complicated as those offered by the other exam bodies. It is easier for the students with middle ability to access as it assesses real life skills.

I go to the OCR pilot meetings which are very useful, particularly as things can change from day to day, so it's good to keep up to date. As well as making use of the OCR problem-solving activities, we are also part of the OCR online community for the linked pair.

The school's results have improved significantly over the years and continue to rise steadily. With the Mathematics pilot in place, St Paul's is at the forefront of Mathematics, especially in the Leicester area; we are doing now what other schools may be doing in four or five years' time."

Michael Elliott, Faculty Leader for Mathematics at St Paul's Catholic School, Leicester

Mollie-Ann is a year 11 student at St Paul's. Mollie's ambition is to become a primary school teacher and her Mathematics studies are essential to helping her with her desired career.

"As a teacher, I will have to teach Mathematics, so it's important to learn and have good knowledge of it and know what you're doing. I don't find Mathematics particularly easy, especially at the start, but once you get into it, it's quite easy to work things through."

SUPPORTING YOU ALL THE WAY

Our support is carefully designed to help you at every stage, from preparation through to the delivery of our specifications. This includes:

- schemes of work and lesson plans
- specimen assessment materials including mark schemes
- a Guide to Curriculum Planning
- past question papers and mark schemes after each examination session
- a report on the examination, compiled by senior examining personnel, after each examination session
- …and much more.

Additional Support for GCSE

- a dedicated AO3 problem-solving guide and classroom resources
- problem solving support pack.

Active Results – for GCSE and A Level

Active Results is a free online results analysis service to help you review the performance of individual students or your whole school. Active Results provides access to detailed results data, enabling more comprehensive analysis of results in order to give you a more accurate measure of the achievements of your centre and individual students.

For more information go to www.ocr.org.uk/activeresults

Mathematics Community

The Maths social network is a free platform where teachers can engage with each other – and with OCR – to share ideas and best practice, offer guidance, and access a range of Maths support materials produced by other teachers.

To sign up, go to http://social.ocr.org.uk/

PUBLISHER SUPPORT

Examquest

Examquest is a learning resource that offers access to a database of past OCR examination materials. You can use the materials to compile personalised assessment materials relevant to current specifications and to create homework, classroom resources and mock exams.

Availability – updated in October 2010 to include assessment material from 2005 to 2010.

Cost – new customers: £90 per licence, thereafter: £45 per update

For subject demos and more information visit **www.examquest.co.uk**

OCR and MEI

The two organisations work closely together, with MEI taking responsibility for the curriculum and teaching aspects of the course, and OCR for the assessment. The support provided includes:

- free resources available via the OCR website – including mark schemes, past papers and reports
- specimen question papers and mark schemes
- direct access to a Mathematics subject team
- published resources from Hodder Education

Plus, MEI offers the following support:

- an annual conference in July
- local branches which meet two or three times a year
- newsletters
- website – **www.mei.org.uk** and **www.integralmaths.org** for online resources

Training

We run INSET courses to support our range of Mathematics qualifications. To find out more about these courses, please visit **www.ocreventbooker.org.uk**

GCSE Mathematics A

We have worked together with Oxford University Press to provide you with a comprehensive and accessible support package including student books, practice books, teacher guides and OxBox CD-ROMs.

Oxford GCSE Maths for OCR provides differentiated resources for Foundation and Higher tiers, with a particular focus on targeting attainment at the C/D borderline, plus stretch and challenge for all students across the A*-G spectrum.

GCSE Mathematics B

Hodder Education have produced an exciting range of resources. These have been written and edited by experienced examiners and authors, combining their teaching and examining expertise to provide relevant and meaningful coverage of the course. The only resources developed in partnership with OCR, they provide comprehensive support for our Mathematics B specification.

The resources include three Student Books, three Teacher and Assessment Packs and three Homework Books. You'll also be able to access full digital support. This includes interactive online assessment that allows you to track students' progress, highlighting the best way to achieve success. The reports not only identify students' strengths and weaknesses, but also provide links to print and digital resources that will help them improve their knowledge and skills.

A Level

Cambridge University Press offer resources, endorsed by OCR, for use with the our A Level Mathematics suite. The resources have undergone OCR's quality assurance process and will support the delivery of the specifications.

To see the resources available now to buy from publishers, go to **www.cambridge.org/education/advancedmathematics**

Entry Level Mathematics

THE ACCESSIBLE CHOICE

Entry Level Mathematics is a nationally recognised qualification, designed to be accessible and relevant, and to provide students with acknowledgment of their achievements.

So our Entry Level Mathematics qualification is designed to progress at the students' pace – letting them develop their skills and knowledge, and building their confidence through achievable goals. Then, when they're ready, they can be put forward for the assessment.

Our qualification is:

- straightforward to administer, so all our centres and students can get the maximum benefit from the course
- 100% centre-marked so students can benefit from immediate feedback from you
- flexible, with an assessment consisting of four tests which can be taken at times convenient for your centre.

Who will it suit?

The qualification is aimed at students who may not be ready for a GCSE, or who will benefit from reinforcing their basic mathematics skills while they study towards one. This makes it suitable for a diverse range of students, including those with learning difficulties and adult returners.

The course is designed to be taken over a year, but it's flexible enough to be studied over shorter or longer periods. The qualification provides students with a basis for progression towards a GCSE in Mathematics, to other related courses, and to future employment.

AT A GLANCE

Unit Title and Description	Assessment and Duration	Weighting
1: Assessed papers (centre-marked) • OCR set papers • Centres administer the assessments in their own time and record the marks for each of the written assessments (out of 30), and the practical and aural papers (out of 20), and give a total out of 100. OCR will ask for a sample of students' work for moderation. Two versions are available to the student, to enable re-sits.	• 4 papers in total including 2 written papers, a practical paper, and an aural paper • Duration: approximately 40 minutes for each test, though there is flexibility.	100%
2: Achievement awards (non-assessed) • The course content is split into 6 manageable stages. Students are observed by the teacher, completing sets of criteria • Upon showing competence, an achievement award may be presented to the student • The content of each stage is split in such a way that by following the course the student can be prepared to take the first written test and the aural test earlier in the year, if this is more convenient • Teachers can use the text book "Entry Level Mathematics" by Seager, Watson, West (Hodder & Stoughton) to target the stage content, and OCR will produce additional materials to help in delivering the course.	• Non-assessed classroom work.	

Functional Skills Mathematics

FOCUSING ON EVERYDAY SITUATIONS

Functional Skills Maths gives your students a practical grounding in how to apply mathematical skills to everyday situations. There is a strong focus on explanation and problem-solving rather than abstract concepts and recall. We use open-ended, task-based assessments to draw out students' independent thinking skills and help them apply them in different real-life settings.

Functional Skills Maths aims to:

- recognise achievement of a range of mathematics skills in real-life settings, so that students can use subject skills in a functional way throughout their lives
- focus assessment on the three skills identified in the skills standards: representing, analysing and interpreting.

Who will it suit?

Functional Skills is suitable for anyone who wants to improve their skills in applying mathematics to real-world situations

To find out more, please go to **www.ocr.org.uk/functionalskills** where you can view the latest information.

AT A GLANCE

Assessment Structure	Duration of Assessment	Assessment
Maths Entry Levels 1–3 • OCR-set tasks (with the option to contextualise to suit individual students) • New e-claims process for entering students means no duplicate paperwork to complete, and easier amendment of entries.	Up to 1 hour 30 minutes.	• On demand • Centre-assessed under controlled assessment conditions, and externally moderated by OCR.
Maths Level 1 and Level 2 • Three tasks, set and marked by OCR at each Level • Online entry through EDI or Interchange, with no paper forms to complete.	1 hour 30 minutes.	• Completed under examination conditions • One assessment opportunity every month. Results within 25 working days.

GCSE Mathematics A

FOR FLEXIBILITY AND CHOICE

Built with teachers in mind, the straightforward structure of our GCSE Mathematics A specification gives you the ability to teach in linear, staged or unitised formats in preparation for the linear examinations. So you can support your students' growing understanding of mathematical concepts.

The specification offers:

- a choice of tier for each unit. Tiers can be mixed across the qualification
- re-sit opportunities without having to re-sit the complete course until November 2013. Thereafter, all assessments must be taken at the same time.
- three assessment series: January, June and November until November 2013. Thereafter June and November only.

Who will it suit?

You can meet the demands of a wide range of students and abilities with this qualification. They'll develop analytical and problem-solving skills in a range of contexts, which they can then take into employment or further study.

AT A GLANCE

Unit Title and Description	Assessment and Duration	Weighting
A501/01: Mathematics Unit A (Foundation) • General problem-solving skills • Number • Hierarchy of options • Ratio • Factors, multiples and primes • General algebra and co-ordinates • Sequences and formulae • Linear equations • General measures • Constructions • Maps • Pythagoras' theorem in 2D • General data handling.	• Written paper • 1 hour • 60 marks • Calculator permitted.	25%
A501/02: Mathematics Unit A (Higher) • General problem-solving skills • Number • Hierarchy of operations • Ratio • Factors, multiples and primes • General algebra and co-ordinates • Sequences and formulae • Linear equations • General measures • Constructions • Maps • **Core trigonometry** • Pythagoras' theorem in 2D **and 3D** • General data handling.	• Written paper • 1 hour • 60 marks • Calculator permitted.	25%
A502/01: Mathematics Unit B (Foundation) • General problem-solving skills • Number • Fractions, decimals and percentages • Indices and surds • General algebra and co-ordinates • Functions and graphs • Inequalities • General measures • Angles and properties of shapes • Transformations • Bivariate data.	• Written paper • 1 hour • 60 marks • Calculator **not** permitted.	25%
A502/02: Mathematics Unit B (Higher) • General problem-solving skills • Number • Fractions, decimals and percentages • Indices and surds • General algebra and co-ordinates • Functions and graphs • Inequalities • General measures • Angles and properties of shapes • Transformations • **Vectors** • Bivariate data.	• Written paper • 1 hour • 60 marks • Calculator **not** permitted.	25%
A503/01: Mathematics Unit C (Foundation) • General problem-solving skills • Number • Upper and lower bounds • Social arithmetic • General algebra and co-ordinates • Algebraic manipulation • Real-life and non-linear functions • General measures • Area and volume • The study of chance.	• Written paper • 1 hours and 30 minutes • 100 marks • Calculator permitted.	50%
A503/02: Mathematics Unit C (Higher) • General problem-solving skills • Number • **Standard index form** • Upper and lower bounds • Social arithmetic • General algebra and co-ordinates • Algebraic manipulation • Real-life and non-linear functions • General measures • Area and volume • Extension trigonometry and Pythagoras' theorem • The study of chance.	• Written paper • 2 hours • 100 marks • Calculator permitted.	50%

GCSE Mathematics B

FOR AN ALTERNATIVE TEACHING APPROACH

The Mathematics B specification provides an exciting, motivating scheme, which is presented in a straightforward and accessible way. This is a two-paper linear specification, with content divided into teaching stages graduated in difficulty. This supports an alternative teaching approach that targets the level of teaching to the needs and abilities of different students or groups.

Benefits include:

- a reduced assessment burden for students, with no modules to revise for part-way through the course
- precious teaching time saved for rich tasks that help to engage your students' minds, rather than spent revising for modules
- helps to develop your students' problem-solving skills before they have to take the assessments
- allows all students, including late-bloomers, to realise their potential
- three assessment series available from June 2012 – in June, November and March until November 2013. Thereafter June and November only.

Who will it suit?

Teaching can be targeted appropriately to the needs of different students or groups, and students with different levels of ability.

AT A GLANCE

Unit Title and Description	Assessment and Duration	Weighting
J567/01: Mathematics Paper 1 (Foundation) • Number • Algebra • Geometry and measures • Statistics.	• Written paper • 1 hour and 30 minutes • 100 marks • Calculator **not** permitted.	50%
J567/02: Mathematics Paper 2 (Foundation) • Number • Algebra • Geometry and measures • Statistics.	• Written paper • 1 hour and 30 minutes • 100 marks • Calculator permitted.	50%
J567/03: Mathematics Paper 3 (Higher) • Number • Algebra • Geometry and measures • Statistics.	• Written paper • 1 hour and 45 minutes • 100 marks • Calculator **not** permitted.	50%
J567/04: Mathematics Paper 4 (Higher) • Number • Algebra • Geometry and measures • Statistics.	• Written paper • 1 hour and 45 minutes • 100 marks • Calculator permitted.	50%

GCSE Linked Pair Pilot

MATHS IN THE REAL WORLD

GCSE Applications of Mathematics
GCSE Methods in Mathematics

Our linked pair GCSE Mathematics pilot is designed to be inspiring, motivating and challenging. It comprises of GCSE Applications of Mathematics and GCSE Methods in Mathematics. Between them, these two courses cover the Key Stage 4 programme of study for Mathematics. Each is distinctive and contains some extra content over the single Mathematics GCSE.

Students will need to enter both and, if successful, they'll gain two GCSE qualifications. Together, these provide opportunities for students to see how maths works in the real world and to engage in conceptual thinking. They aim to improve attitudes towards maths and to inspire young people to study the subject beyond GCSE.

Benefits include:

- encouraging students to develop problem-solving and modelling skills in mathematics, and helping them to acquire knowledge, skills and understanding of mathematical and statistical methods, techniques and concepts (GCSE Applications of Mathematics)
- helping you bring maths to life by building students' awareness of the links between different areas in mathematics, and by promoting the skills of logical reasoning and mathematical argument and proof (GCSE Methods in Mathematics)
- more recognition of Mathematics in line with English and Science, with students able to achieve two GCSEs
- preparing students well for studying Mathematics at Level 3.

Who will it suit?

This pilot GCSE specification has been designed to give all students the opportunity to achieve a Grade C in Mathematics. Students who successfully complete courses based on this specification will have a suitable basis for progression to further study in Mathematics or related subjects, or directly into employment.

GCSE Applications of Mathematics

AT A GLANCE

Unit Title and Description	Assessment and Duration	Weighting
Unit A381/01 Applications of Mathematics 1 (Foundation) • General Problem Solving Skills • Number • Hierarchy of operations • Factors, multiples and primes • Fractions, decimals and percentages • Indices and surds • Measures • Coordinates • Formulae • Linear equations • Angles and properties of shapes • Area and volume.	• Written paper • 1 hour • 60 marks • Calculator permitted.	40%
Unit A381/02 Applications of Mathematics 1 (Higher) • General Problem Solving Skills • Number • Hierarchy of operations • Factors, multiples and primes • Fractions, decimals and percentages • Indices and surds • Measures • Coordinates • Formulae • Linear equations • Angles and properties of shapes • Area and volume.	• Written paper • 1 hour 15 minutes • 60 marks • Calculator permitted.	40%
Unit A382/01 Applications of Mathematics 2 (Foundation) • General Problem Solving Skills • Number • Hierarchy of operations • Ratio • Financial and business applications • Coordinates • Linear inequalities • Functions and graphs • Algebraic manipulation • Estimate areas • Pythagoras in 2D • Area and volume • Constructions • Maps • Statistics and probability.	• Written paper • 1 hour 30 minutes • 90 marks • Calculator permitted.	60%

Unit Title and Description	Assessment and Duration	Weighting
Unit A382/02 Applications of Mathematics 2 (Higher) • General Problem Solving Skills • Number • **Use Upper and lower bounds** • Hierarchy of operations • Ratio • **Indices and surds** • **Standard index form** • Financial and business applications • Coordinates • Linear inequalities • **Linear programming** • Functions and graphs • Algebraic manipulation • Estimate areas • Pythagoras in 2D **and 3D** • **Angles and properties of shapes** • Area and volume • Constructions • Maps • **Trigonometry** • Statistics and probability.	• Written paper • 2 hours • 90 marks • Calculator permitted.	60%

GCSE Methods in Mathematics

AT A GLANCE

Unit Title and Description	Assessment and Duration	Weighting
Unit B391/01 Methods in Mathematics 1 (Foundation) • General Problem Solving Skills • Number • Hierarchy of operations • Factors, multiples and primes • Fractions, decimals and percentages • Indices and surds • Algebra • Coordinates • Sequences and formulae • Linear equations • Functions and graphs • Angles and properties of shapes • Transformations • Area and volume • Probability.	• Written paper • 1 hour • 60 marks • Calculator **not** permitted.	40%
Unit B391/02 Methods in Mathematics 1 (Higher) • General Problem Solving Skills • Number • Hierarchy of operations • Factors, multiples and primes • Fractions, decimals and percentages • Indices and surds • **Standard index form** • Algebra • Coordinates • Sequences and formulae • Linear equations • Functions and graphs • Angles and properties of shapes • Transformations • **Vectors** • Area and volume • Probability.	• Written paper • 1 hour 15 minutes • 60 marks • Calculator **not** permitted.	40%
Unit B392/01 Methods in Mathematics 2 (Foundation) • General Problem Solving Skills • Number • Hierarchy of operations • Ratio • Fractions, decimals and percentages • Algebra • Coordinates • Sequences and formulae • Linear equations • Functions and graphs • Pythagoras in 2D • Angles and properties of shapes • Transformations • Area and volume.	• Written paper • 1 hour 30 minutes • 90 marks • Calculator permitted.	60%
Unit B392/02 Methods in Mathematics 2 (Higher) • General Problem Solving Skills • Number • Hierarchy of operations • Ratio • Fractions, decimals and percentages • Algebra • Coordinates • Sequences and formulae • Linear equations • **Algebraic manipulation** • Functions and graphs • Pythagoras in 2D **and 3D** • Angles and properties of shapes • Area and volume • Trigonometry.	• Written paper • 2 hours • 90 marks • Calculator permitted.	60%

Email us at **LinkedPairMaths@ocr.org.uk**

Cambridge IGCSE Mathematics

DEVELOPING MATHEMATICAL KNOWLEDGE

Cambridge IGCSE is the world's most popular international qualification for 14–16-year-olds and is taken in over 135 countries. UK entries for Cambridge IGCSE are up 95% on June 2010. Over 500 UK schools now offer Cambridge IGCSE, including 200 state schools and 300 from the independent sector.

IGCSEs and GCSEs are equivalent qualifications; however, Cambridge IGCSEs are linear. Students take all exams at the end of the two-year course, which gives more time for teaching and learning. The qualification provides successful learners with excellent preparation for their next steps in education, including progression to A and AS Level study, and equips them with skills for immediate employment.

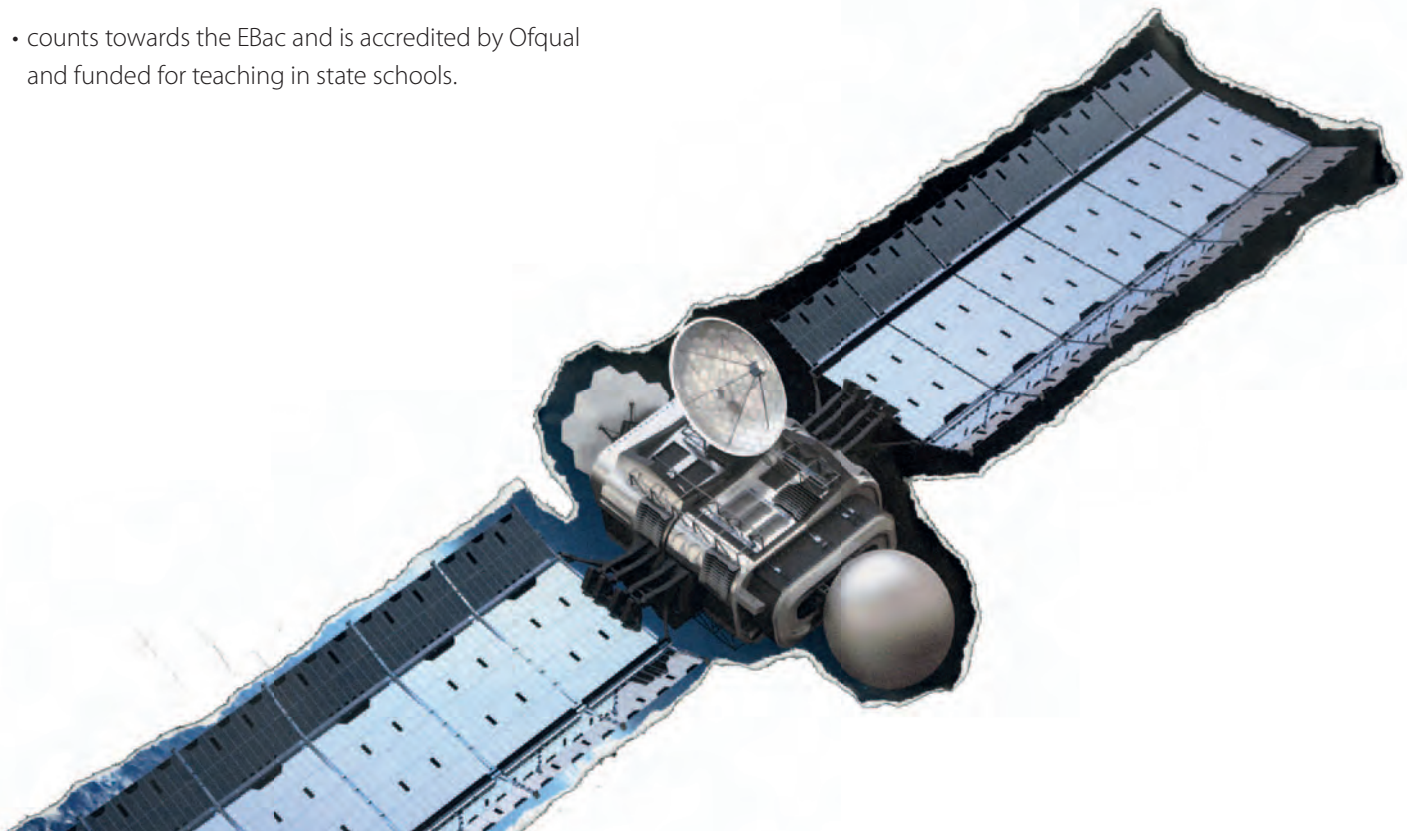
Cambridge IGCSEs count towards the English Baccalaureate and are included in the Government's school performance tables. The Cambridge IGCSE Mathematics (without coursework option) is accredited by Ofqual and funded for state schools in England. Our sister organisation, University of Cambridge International Examinations, is currently also seeking accreditation for Cambridge IGCSE International Mathematics.

Cambridge IGCSE Mathematics (with and without coursework)

An essential subject for all students, Cambridge IGCSE Mathematics is a fully examined course which encourages the development of mathematical knowledge as a key life skill, and as a basis for more advanced study. The syllabus aims to build students' confidence by helping them develop a feel for numbers, patterns and relationships, and places a strong emphasis on solving problems and presenting and interpreting results. Students also learn how to communicate and reason using mathematical concepts.

Here are some of the many reasons for choosing this qualification:

- the linear structure provides a holistic approach to mathematics
- the broad range of topics with real-world applications prepare learners more fully for the future
- tiering provides choice for both lower and higher ability learners
- it assesses higher order mathematical skills in an innovative and unique way, requiring complex thinking rather than just recall of facts
- UK GCSE text books can be used to support Cambridge IGCSE teaching
- counts towards the EBac and is accredited by Ofqual and funded for teaching in state schools.



Cambridge IGCSE Mathematics

SYLLABUS 0580 (without coursework)

Core curriculum – Grades available: C–G	Extended curriculum – Grades available: A*–E
Paper 1 – 1 hour Short-answer questions. Candidates should answer each question. Weighting: 35%	**Paper 2 – 1½ hours** Short-answer questions. Candidates should answer each question. Weighting: 35%
Paper 3 – 2 hours Structured questions. Candidates should answer each question. Weighting: 65%	**Paper 4 – 2½ hours** Structured questions. Candidates should answer each question. Weighting: 65%

SYLLABUS 0581 (with coursework)

Core curriculum – Grades available: C–G	Extended curriculum – Grades available: A*–E
Paper 1 – 1 hour Short-answer questions. Candidates should answer each question. Weighting: 30%	**Paper 2 – 1½ hours** Short-answer questions. Candidates should answer each question. Weighting: 30%
Paper 3 – 2 hours Structured questions. Candidates should answer each question. Weighting: 50%	**Paper 4 – 2½ hours** Structured questions. Candidates should answer each question. Weighting: 50%
Paper 5 Coursework. Weighting: 20%	**Paper 6** Coursework. Weighting: 20%

Cambridge IGCSE Additional Mathematics

Cambridge IGCSE Additional Mathematics is also available to independent schools for students who want to develop and stretch themselves in mathematics – typically students likely to achieve grade A*, A or B in Cambridge IGCSE Mathematics or equivalent. The syllabus content focuses on Pure Mathematics, which gives students an excellent foundation for mathematics at A and AS Level and beyond.

SYLLABUS 0606

Paper 1 – 2 hours 10–12 questions of various lengths No choice of question. Weighting : 50%	**Paper 2 – 2 hours** 10–12 questions of various lengths No choice of question. Weighting : 50%

FSMQ Additional Mathematics

AN EXCELLENT INTRODUCTION TO ADVANCED MATHS

Developed jointly by OCR and MEI, this course provides students with an introduction to the mathematics studied in AS and A Level modules.

Benefits include:

- introducing students to the power and elegance of advanced mathematics
- enabling them to experience the directions in which the subject is developed post-GCSE
- building confidence in using mathematical skills in other areas of study
- excellent preparation for AS study for Year 11 students
- a single two-hour examination and no coursework.

Who will it suit?

The course is designed to meet the needs of students who want to continue the study of Mathematics beyond GCSE, but for whom AS units may not be immediately appropriate. They should have comfortably achieved, or be expected to achieve, Grade A at GCSE.

AT A GLANCE

Course Outline	Assessment and Duration
• The content consists of **four** areas of Pure Mathematics: • algebra • co-ordinate Geometry • trigonometry • calculus. • Each of these is used to support a topic from a recognised branch of Applied Mathematics.	The assessment is by examination and will be set in the summer of each year. There will be one paper of two hours. The examination result will be reported as a grade A, B, C, D, E or U. There is no coursework requirement.

ASSESSMENT OBJECTIVES

A course based on this specification requires students to demonstrate their knowledge, understanding and skills in the following objectives:

Assessment Objective	Weighting
1. Recall and use manipulative techniques	1. 25-35%
2. Interpret and use mathematical data, symbols and terminology	2. 25-35%
3. Recognise the appropriate mathematical procedure for a given situation	3. 10-20%
4. Formulate problems into mathematical terms and select and apply appropriate techniques of solution	4. 10-20%
5. Pursue a mathematical argument rigorously and with a high level of algebraic skill	5. 10-20%

FSMQ Foundations Of Advanced Mathematics (MEI)

ENHANCING STUDENT SUCCESS

This is a free-standing Mathematics qualification at Intermediate Level, developed jointly by OCR and MEI. It is designed to enhance a student's chance of success by developing and consolidating the techniques that they are most likely to use in their future studies with a broad-based course at an appropriate level.

Benefits include:

- support for the Key Skill Application of Number qualification
- assessment by a two-hour examination consisting of 40 multiple choice questions, set in January and June of each year.

Who will it suit?

The course provides access to students who are not yet confident in being ready to undertake AS/A Level Mathematics courses. It also provides mathematics for students taking advanced courses in other subjects, and those preparing for Higher Education whose studies include a numerate element.

AT A GLANCE

Course Outline	Assessment and Duration
• A broad-based course, it covers: • arithmetic • algebra • graphs • trigonometry and statistics. • This contrasts with other Intermediate FSMQs that look at self-contained areas of the subject in depth.	Multiple choice paper 40 questions each worth 1 mark 2 hours January and June each year.

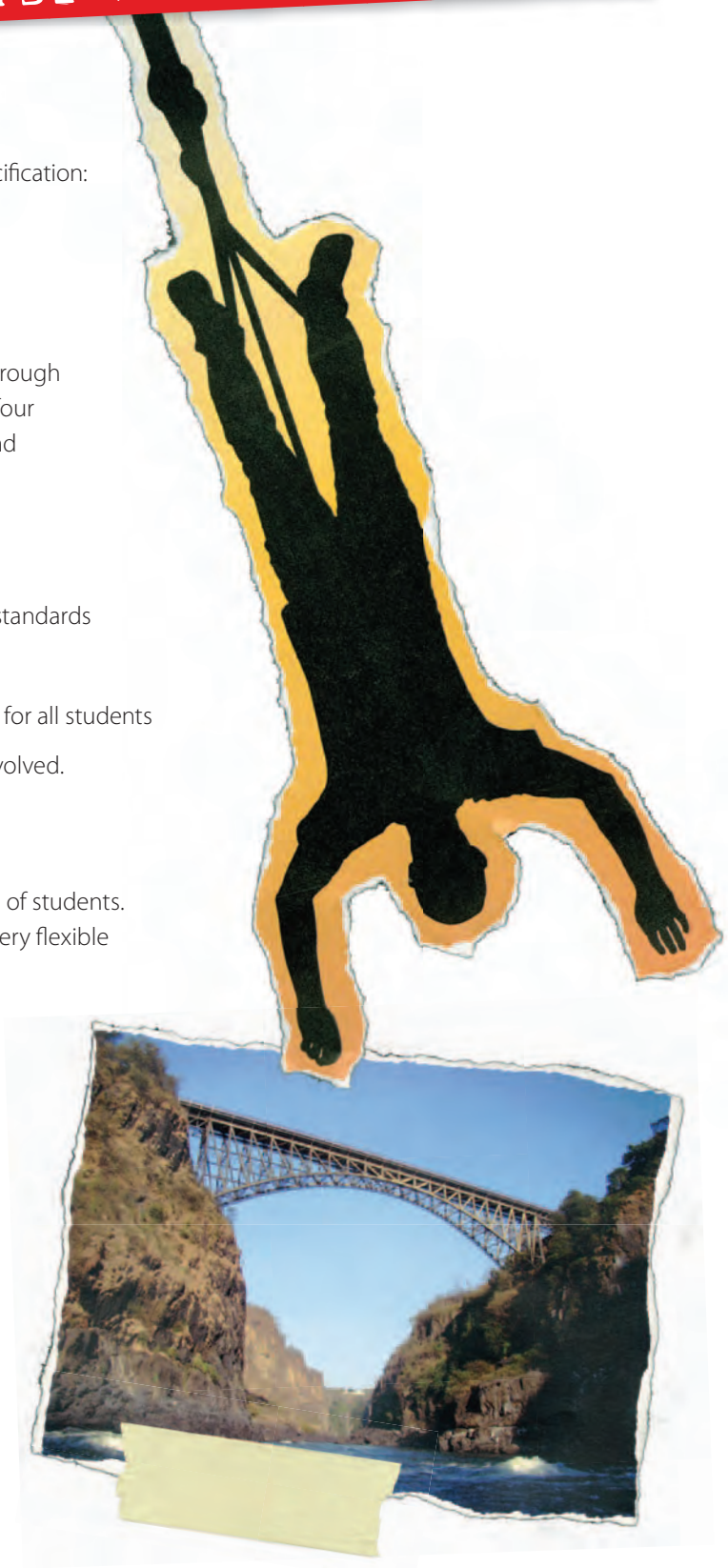
ASSESSMENT OBJECTIVES

A course based on this specification requires students to demonstrate their knowledge, understanding and skills in the following assessment objectives:

Assessment Objective	Weighting
1. Recall, select and use their knowledge of appropriate mathematical facts, concepts and techniques in a variety of contexts	1. 30-40%
2. Recognise and understand precise statements, logical deductions and inference; manipulate expressions	2. 40-50%
3. Recognise and understand given mathematical representations of situations; interpret results from such representations	3. 5-15%
4. Comprehend translations of common realistic contexts into mathematics	4. 5-15%
5. Appreciate whether or not given information is reasonable and is given to an appropriate level of accuracy	5. 5-15%

AS/A Level Mathematics
AS/A Level in Pure Mathematics

FOR A WIDE RANGE OF STUDENTS



The following qualifications are available as part of this specification:

AS/A LEVEL IN MATHEMATICS

AS/A LEVEL IN PURE MATHEMATICS

AS/A LEVEL IN FURTHER MATHEMATICS

This well-planned scheme offers a complete progression through the various strands of mathematics, with units arranged in four different strands: Pure Mathematics; Mechanics, Statistics and Decision Mathematics.

Benefits include:

- a simple, flexible structure and clearly defined AS and A2 standards
- permits AS Further Mathematics to be studied in Year 12
- offers firmly-established routes for progression from GCSE for all students
- is externally assessed for all units, and no coursework is involved.

Who will it suit?

The scheme is designed to meet the needs of a wide range of students. The numerous possible combinations of units make this a very flexible course, catering equally well for those wanting to focus on Mathematics (by taking six, nine, or twelve units) and for those who may simply want to broaden the scope of their study or support other subjects (by taking just three units).

AT A GLANCE

Code	Unit Name	Level	Assessment and Duration
4721	C1* Core Mathematics 1*	AS	• 3 units of assessment for Advanced Subsidiary GCE • 6 units of assessment for Advanced GCE • Units C1, C2, FP1, M1, S1 and D1 are designated as AS units, whilst C3, C4, FP2, FP3, M2, M3, M4, S2, S3, S4 and D2 are designated as A2 units • All papers are 1 hour 30 minutes. • Total marks for each paper is 72 • All units are equally weighted
4722	C2 Core Mathematics 2	AS	
4723	C3 Core Mathematics 3	A2	
4724	C4 Core Mathematics 4	A2	
4725	FP1 Further Pure Mathematics 1	AS	
4726	FP2 Further Pure Mathematics 2	A2	
4727	FP3 Further Pure Mathematics 3	A2	
4728	M1 Mechanics 1	AS	
4729	M2 Mechanics 2	A2	
4730	M3 Mechanics 3	A2	
4731	M4 Mechanics 4	A2	
4732	S1 Probability and Statistics 1	AS	
4733	S2 Probability and Statistics 2	A2	
4734	S3 Probability and Statistics 3	A2	
4735	S4 Probability and Statistics 4	A2	
4736	D1 Decision Mathematics 1	AS	
4737	D2 Decision Mathematics 2	A2	

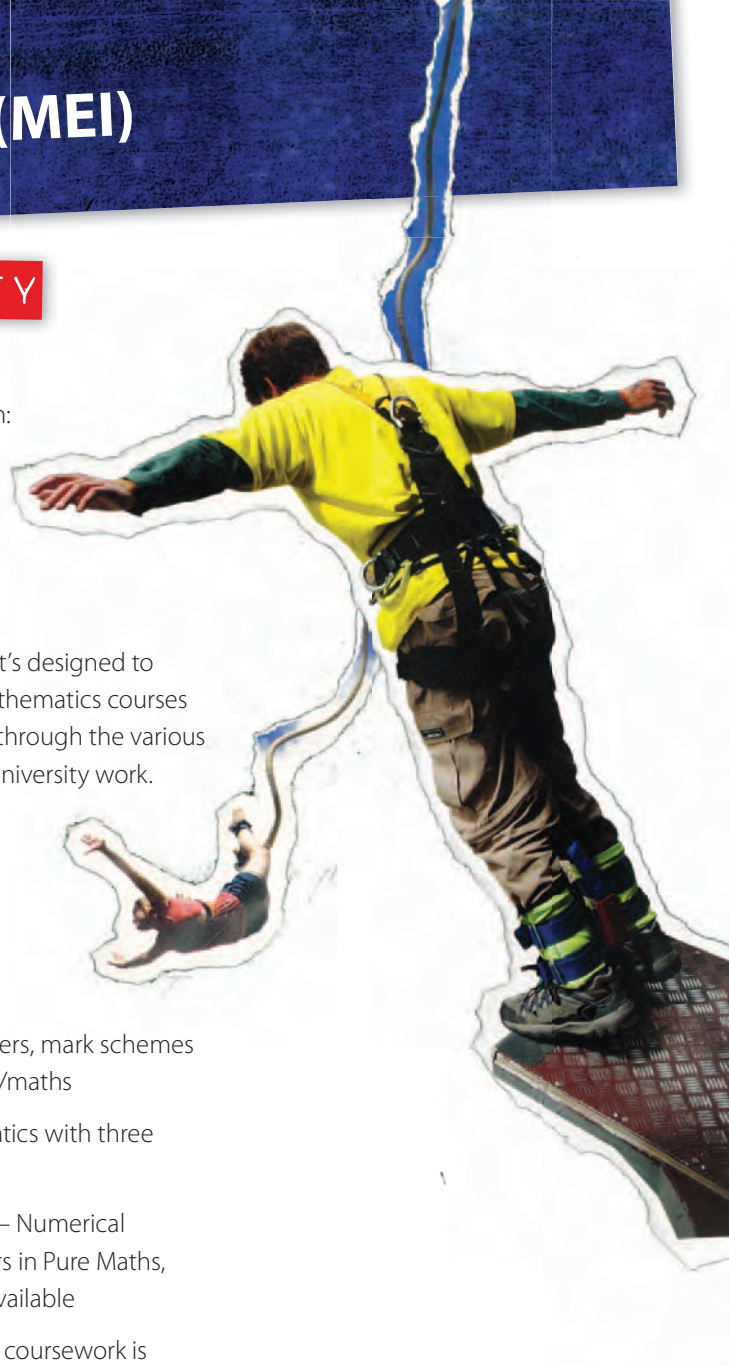
* Calculator **not** permitted.

The following combinations of units are available for certification

Certification Title and Number	Units Required
AS Level Mathematics (3890)	C1 and C2, together with one of M1, S1, D1
AS Level Pure Mathematics (3891)	C1, C2 and FP1
AS Level Further Mathematics (3892)	FP1 together with two other units which may not include any of C1, C2, C3, C4
Mathematics (7890)	C1, C2, C3 and C4, together with either two from M1, S1, D1 or M1, M2 or S1, S2 or D1, D2
A Level Pure Mathematics (7891)	C1, C2, C3, C4, FP1 and either FP2 or FP3
A Level Further Mathematics (7892)	FP1 together with FP2 or FP3 or both, plus three or four other units, as appropriate

AS/A Level Mathematics (MEI)

FROM GCSE TO UNIVERSITY



The following qualifications are available as part of this specification:

AS/ A LEVEL IN MATHEMATICS (MEI)

AS/ A LEVEL IN FURTHER MATHEMATICS (MEI) and ADDITIONAL FURTHER MATHEMATICS (MEI)

AS/ A LEVEL IN PURE MATHEMATICS (MEI)

This specification was devised by MEI and is administered by OCR. It's designed to help more students fulfil their potential, by taking and enjoying Mathematics courses relevant to their post-16 needs. It provides a complete progression through the various strands of mathematics, from AS Level through to the first year of University work.

Benefits include:

- user-friendliness and accessibility
- unrivalled levels of support and advice; MEI provide textbooks, online resources, support by telephone and email, INSET (including an annual conference) – see www.mei.org.uk; past papers, mark schemes and reports are available from the OCR website – www.ocr.org.uk/maths
- a choice of how much mathematics to follow – from AS Mathematics with three units to three A Levels with 18 units
- a large choice of units including the optional Further Maths units – Numerical Methods (AS) and Differential Equations (A2). A full range of papers in Pure Maths, Mechanics, Statistics, Decision Maths and Numerical Methods is available
- a variety of assessment methods – a small amount of compulsory coursework is required to assess the numerical methods element of Core 3, plus two optional Further Maths units with coursework; two optional Further Maths units where a computer is used in the exam; a comprehension paper as part of Core 4.

Who will it suit?

The scheme is designed to meet the needs of a wide range of students. MEI run the Further Maths Support Programme that can support students studying Further Mathematics.

AT A GLANCE

Code	Unit Name	Level	Notes
4751	C1 Introduction to Advanced Mathematics	AS	No calculator allowed.
4752	C2 Concepts for Advanced Mathematics	AS	
4753	C3 Methods for Advanced Mathematics	A2	With coursework.
4754	C4 Applications of Advanced Mathematics	A2	Includes a comprehension paper; 2 hours and 30 minutes.
4755	FP1 Further Concepts for Advanced Mathematics	AS	
4756	FP2 Further Methods for Advanced Mathematics	A2	Some choice of questions.
4757	FP3 Further Applications of Advanced Mathematics	A2	Some choice of questions; June only.
4758	DE Differential Equations	A2	With coursework.
4761	M1 Mechanics 1	AS	
4762	M2 Mechanics 2	A2	
4763	M3 Mechanics 3	A2	
4764	M4 Mechanics 4	A2	June only.
4766	S1 Statistics 1	AS	
4767	S2 Statistics 2	A2	
4768	S3 Statistics 3	A2	
4769	S4 Statistics 4	A2	Some choice of questions; June only.
4771	D1 Decision Mathematics 1	AS	
4772	D2 Decision Mathematics 2	A2	June only.
4773	DC Decision Mathematics Computation	A2	Requires a PC in exam; 2 hours and 30 minutes; June only.
4776	NM Numerical Methods	AS	With coursework.
4777	NC Numerical Computation	A2	Requires a PC in exam; 2 hours and 30 minutes; June only.

Certification Titles Available and Valid Combinations of Units

Code	Certification Title	Allowed combinations		Other rules
3895	AS Mathematics	3 units	C1, C2 & one of M1, S1, D1	
7895	A Level Mathematics	6 units	C1, C2, C3 & C4 and two units from the following combinations: M1 M2; S1 S2; D1, D2; D1, DC; M1 S1; M1 D1; S1, D1	
3896	AS Further Mathematics	3 units	FP1 & two other units not included in Maths	Either 3895 or 7895 must be certificated
7896	A Level Further Mathematics	6 units	FP1, FP2 & four other units not included in Maths; at least three units must be A2	7895 must be certificated
3897	AS Additional Further Mathematics	3 units	Any 3 units not included in Maths or Further Maths	7896 must be certificated
7897	A Level Additional Further Mathematics	6 units	Any 6 units not included in Maths or Further Maths	7896 must be certificated
3898	AS Pure Mathematics	3 units	C1, C2 & one of C3, C4, FP1, NM	
7898	A Level Pure Mathematics	6 units	C1, C2, C3, C4 & one of FP1, NM & one of FP2, FP3, NC	Cannot be certificated with 7895

AS Level Statistics (MEI)

DEVELOPING UNDERSTANDING

This qualification is designed to develop students' understanding of statistics and statistical processes in a way that makes them more confident, increases their enjoyment, and brings maths to life.

Benefits include:

- developing students' ability to use data to argue a case and to recognise incorrect reasoning
- extending their range of statistical skills and techniques and helping them to judge when it's appropriate to use them
- helping students to recognise how statistics may be used to model a situation, to understand the relationship between real-world problems and standard statistical models, and how these can be refined and improved
- developing students' awareness of the relevance of statistics to other fields of study, to the world of work and to society in general.

Who will it suit?

This course is designed to provide many more students with access to the statistics they actually need – because it has more emphasis on interpretation and modelling, and is less mathematical in nature. So it is particularly useful for students taking A Level subjects that involve some statistics: such as Geography, Biology, Business Studies, Psychology and Economics. It's also suitable for those already in employment or intending to progress directly into employment. No prior knowledge of the subject is required.

AT A GLANCE

Unit Title and Description	Assessment and Duration	Weighting
AS Statistics 1 • Processes • Data Presentation • Probability • Discrete Random Variables • The Binomial Distribution and its use in Hypothesis Testing.	• Written paper • 1 hour and 30 minutes • 72 marks.	33.3%
AS Statistics 2 • Probability Models • Poisson Distribution • Normal Distribution • Sample Data: Estimation and Hypothesis Testing.	• Written paper • 1 hour and 30 minutes • 72 marks.	33.3%
AS Statistics 3 • Sampling • Design of Experiments • Estimation and Hypothesis Testing • Correlation.	• Written paper • 1 hour and 30 minutes • 72 marks.	33.3%

Unit Availability

- Z1: two examination series each year, in January and June. Z2 and Z3: one examination series each year in June.

Certification Availability

- Certification is available annually in June.

Curriculum Planning

Curriculum pathways for Maths

One of the major benefits of our Maths qualifications is that they offer you and your students a wide variety of possible pathways, with choices to meet students' interests, aptitudes and needs, and the resources available within the school.

The table on the following page is designed to outline some of the possible pathways you could follow in your school.

With each suggested pathway we have given some guidance around why each route might suit your school. If you would like to discuss any of these options in more detail, contact a member of our specialist Maths subject team on **0300 456 3142**.

Curriculum Planning

A WIDE VARIETY OF POSSIBLE PATHWAYS

AT A GLANCE

Year 9	Year 10	Year 11	Year 12 and 13
KS3 Mathematics	Entry Level Mathematics		
Entry Level Mathematics	GCSE Mathematics A		
Entry Level Mathematics	GCSE Mathematics B		
KS3 Mathematics	GCSE Mathematics A		AS/A Level Mathematics
KS3 Mathematics	GCSE Mathematics A		Free-standing Mathematics qualification
KS3 Mathematics	GCSE Mathematics B		Free-standing Mathematics qualification
KS3 Mathematics	GCSE Mathematics B		AS/A Level Mathematics
KS3 Mathematics	GCSE Applications of Mathematics (Pilot)		Free-standing Mathematics qualification
	GCSE Methods in Mathematics (Pilot)		
KS3 Mathematics	GCSE Applications of Mathematics (Pilot)		AS/A Level Mathematics
	GCSE Methods in Mathematics (Pilot)		
KS3 Mathematics	GCSE Applications of Mathematics (Pilot)		Free-standing Mathematics qualification
	GCSE Methods in Mathematics (Pilot)		
KS3 Mathematics	GCSE Applications of Mathematics (Pilot)		AS/A Level Mathematics
	GCSE Methods in Mathematics (Pilot)		
GCSE Mathematics A		Free-standing Mathematics qualification	
GCSE Mathematics B		Free-standing Mathematics qualification	
GCSE Mathematics A		Free-standing Mathematics qualification	AS/A Level Mathematics and Further Mathematics
GCSE Mathematics B		Free-standing Mathematics qualification	AS/A Level Mathematics and Further Mathematics
GCSE Applications in Mathematics (Pilot)		Free-standing Mathematics qualification	AS/A Level Mathematics and Further Mathematics
GCSE Methods in Mathematics (Pilot)			
GCSE Applications in Mathematics (Pilot)	GCSE Methods in Mathematics (Pilot)	Free-standing Mathematics qualification	AS/A Level Mathematics and Further Mathematics
Functional Skills Mathematics (Entry Level 1 to Level 2)			

Guidance **Benefits**	**Considerations**
Can be taught with GCSE Mathematics A or B.	Students could progress onto GCSE Mathematics A or B Foundation Level.
For students not wishing to study Mathematics after age 16.	
For students not wishing to study Mathematics after age 16.	
Provides good preparation for further education or employment.	Students may progress onto further study. Students may also need to study AS/A Level Further Mathematics.
Provides good preparation for further education or employment.	For students wanting GCSE Mathematics and an additional qualification.
More flexibility in the order of teaching. Provides good preparation for further education or employment.	Students may also need to study Further Mathematics. Students may progress onto further study.
More flexibility in the order of teaching. Provides good preparation for further education or employment.	For students wanting two GCSE Mathematics qualifications plus an additional qualification.
The two pilot specifications cover more content between them than the single GCSE. Provides good preparation for further education or employment.	For students wanting two GCSE Mathematics qualifications plus an additional qualification.
The two pilot specifications cover more content between them than the single GCSE. Provides good preparation for further education or employment.	For students wanting two GCSE Mathematics qualifications plus an additional qualification. Students may progress onto further study.
The two pilot specifications cover more content between them than the single GCSE. Provides good preparation for further education or employment.	For students wanting two GCSE Mathematics qualifications plus an additional qualification. There is a small overlap in content between the pilot and the free-standing Mathematics qualification.
The two pilot specifications cover more content between them than the single GCSE. Provides good preparation for further education or employment.	For students wanting two GCSE Mathematics qualifications. Students may progress onto further study.
Provides good preparation for further education or employment.	Students wanting a good mathematical knowledge but not wishing to study Mathematics after age 16.
More flexibility in the order of teaching. Provides good preparation for further education or employment.	Students wanting a good mathematical knowledge but not wishing to study Mathematics after age 16. The gap between teaching and assessment may be longer.
This is a good route for your more able mathematicians.	
This is a good route for your more able mathematicians.	
This is a good route for your more able mathematicians.	
This is a good route for your more able mathematicians.	
Can be embedded into curriculum delivery at any level, with students taking the appropriate level of assessment when ready. OCR guidance and support materials are available to help with delivery.	Additional teaching and learning approaches are needed to ensure students are fully prepared for the assessment. We recommend that this is included within existing delivery, to ensure relevance and greater understanding of transferability of skills – although functional skills support materials offer guidance on a number of different approaches.

HOW TO GET IN TOUCH

OCR Mathematics support team

If you'd like to find out more about our Mathematics qualifications, please call our dedicated and trained mathematics support team on **0300 456 3142**

They are available from 8am–5.30pm, Monday – Friday. You can also email us at **maths@ocr.org.uk**

Telephone 01223 553998
Facsimile 01223 552627

maths@ocr.org.uk
1 Hills Road, Cambridge CB1 2EU

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored.
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