

Maths Resources for Schools

Resources for students

Key stage	Resource
	Additional Reading
KS5	Alcock, Lara How to Study for a Mathematics Degree (2012)
KS5	Allenby, Reg Numbers and Proofs (1997)
KS5	Bellos, Alex Alex's Adventures in Numberland (2010)
KS5	Clegg, Brian A Brief History of Infinity (2003)
KS5	Courant, Robbins and Stewart What is Mathematics? (1996)
KS5	Dudley, Underwood Is Mathematics Inevitable? A Miscellany (2008)
KS5	Earl, Richard Towards Higher Mathematics: A Companion (2017)
KS5	Elwes, Richard MATHS 1001 (2010), Maths in 100 Key Breakthroughs (2013)
KS5	Gardiner, Martin The Colossal Book of Mathematics (2001)
KS5	Gowers, Tim Mathematics: A Very Short Introduction (2002)
KS5	Hofstadter, Douglas Gödel, Escher, Bach: an Eternal Golden Braid (1979)
KS5	Houston, Kevin How to Think Like a Mathematician (2009)
KS5	Körner, T. W. The Pleasures of Counting (1996)
KS5	Liebeck, Martin A Concise Introduction to Pure Mathematics (2000)
KS5	Odifreddi, Piergiorgio The Mathematical Century: The 30 Greatest Problems of the Last 100 Years (2004)
KS4-5	Piper, Fred & Murphy, Sean Cryptography: A Very Short Introduction (2002)
KS5	Polya, George How to Solve It (1945)
KS5	Sewell, Michael (ed.) Mathematics Masterclasses: Stretching the Imagination (1997)
KS5	Singh, Simon The Code Book (2000), Fermat's Last Theorem (1998)

KS4-5	Stewart, Ian Letters to a Young Mathematician (2006), 17 Equations That Changed the World (2012)
KS4-5	Cambridge My HE Plus- wider reading resources
KS5	Causeway wider reading resources
KS5	A Very Short Introduction to series - various books about Mathematics
KS5	University College Oxford Reading Bank – subject-specific reading recommended by current Oxford undergraduates.
	Websites
KS3-5	Oxplere - Topical questions to explore involving a range of subjects
KS1-5	Themathszone.co.uk - Resources for students in all years.
KS1-3	Purposegames.com - Educational maths games.
KS1-3	Coolmathgames.com - Educational maths games.
KS1-4	Corbettmaths - videos and worksheets in addition to other resources.
KS2-4	Wild.maths.org - A collection of mathematical games, activities and stories, encouraging you to think creatively.
KS2-5	Drfrostmaths.com - on line learning resources including videos and exams questions for all ages.
KS4	Mrbartonmaths.com - resources for students and teachers at GCSE level.
KS2-4	Corbett Maths - videos worksheets and resources for primary, GCSE Maths and GCSE Further Maths
KS4	GCSE Bitesize Maths
KS4-5	Sparknotes.com - GCSE revision resources.
KS4-5	S-cool.co.uk - Maths GCSE and A Level revision
K3-5	Khan academy - Maths resources for students/teachers/parents.
KS4-5	Nrichmaths.org - resources for students of all ages- mathematical problems, games and challenges.
KS3-4	Parallel Maths project - Lots of short challenges.
KS1-5	Chessplus.net - A range of chess-based educational resources.
KS1-5	Bletchley Park resources - learning resources- maths and code breaking.
KS4	Maths problems for KS4

KS3-5	The art of problem solving - Resources on the art of problem solving.
KS4-5	Simulations of Maths problems to aid understanding
KS3-5	e-Trust STEM Challenges - resources and activities to support a range of challenges for students
KS4-5	Brilliant.org - develop quantitative skills in Maths, Physics and computer science through questions and challenges- free trial then charges may apply.
KS5	Advanced Mathematics Support Programme - A government-funded initiative. It aims to increase participation in Core Maths, AS/A level Mathematics and Further Mathematics.
KS5	Maths.org - Support programme for STEP Maths exam.
KS5	Physics and Maths Tutor STEP - resources and past papers for STEP exam
KS5	Tomrocksmaths.com - Oxford University tutor with lots of interesting maths resources.
KS5	Oxford tutor, Dr Vicky Neale's Maths resources and blog.
KS5	The Intrepid Mathematician - a quirky resource for those who love maths.
KS5	What if Questions - hypothetical questions and answers involving maths and Physics problems
KS4-5	Oxford Mathematics Alphabet - Oxford Mathematical Institute writing about engaging mathematical ideas and the latest research.
KS1-5	Cambridge University - sport related Maths Problems and resources
KS5	Harvard University Physics problem of the week
KS4-5	Womeninstem.co.uk – Inspirational stories from women working in a range of interesting STEM roles.
	Radio/Podcasts/Videos/MOOCs
KS5	BBC Radio 4 – In Our Time Melvyn Bragg examines the way perceptions of the importance of mathematics have fluctuated in the 20th century.
KS5	BBC Radio 4- A brief History of Mathematics
KS4-5	BBC More or Less: Behind the Stats - Tim Harford and the More or Less team try to make sense of the statistics which surround us. From BBC Radio 4.
KS4-5	Podbean – GCSE revision podcasts.
KS4-5	Seneca learning - Free GCSE and A Levels Maths podcasts.
KS4	GCSE Pod

KS4-5	Numberphile.com – Videos and podcasts on a range of maths topics.
KS4-5	Podcasts focusing on interesting areas of Maths
KS4-5	Breaking Math podcast -weekly podcast which aims to make maths accessible to everyone
KS5	The Secrets of Mathematics - Podcasts
KS5	Oxford Podcasts - A series of talks and lectures by Oxford's Mathematicians exploring the power and beauty of their subject.
KS3-4	BBC Bitesize
KS4-5	BBC 4 The Story of Maths
KS4-5	BBC 4 Hannah Fry's Mysterious World of Maths
KS4-5	Documentaries for teaching Maths
KS5	Gresham College Mathematics lectures
KS4-5	TLM Maths – video collections for teaching GCSE Maths, Core Maths, A Level and Further Maths A Level
KS4-5	Crash Course Statistics video course
KS4-5	Birmingham Popular Maths Lectures - Lectures for advanced GCSE and A Level Students.
KS3-4	Oxford Mathematical Institute - Christmas Maths lectures by Marcus du Sautoy.
KS5	Oxford Mathematics Institute - Public Lectures and Events.
KS5	Oxford Mathematics YouTube channel.
KS5	Oxford Mathematics – Student Lectures.
KS5	Oxford University Maths Plus videos
KS5	YouTube - Video on how to prepare for Oxford University's Maths Admission Test.
KS5	Oxford University Online Maths Club – for year 12 students on Thursdays at 4.30
KS5	Influencing HIV/AIDS Policy in India through Mathematical Modelling - Oxford University Maths research
KS5	Helping the "Greeks to Run Faster" - Oxford University Maths Research
KS5	Mathematics in the Design and Manufacture of Novel Glass Products - Oxford University Maths Research
KS5	Mathematical Solutions for Industry - Oxford University Maths Research

KS5	Network Maths - Oxford University Maths Research
KS5	Mathematical Model of the Heart - Oxford University Maths Research
ALL	Millennium Maths Project - Cambridge University
KS5	YouTube - Fermat's last Theorem.
KS5	YouTube - London Mathematical Society Videos.
KS5	YouTube - The Royal Society YouTube channel.
KS5	London Mathematical Society - Popular videos for A Level maths
KS5	The Royal Society - videos
KS4-5	Ted Talks – Maths talks to blow your mind.
KS5	Imperial College London A Level Online Maths course
KS5	Crash Course – video based course in statistics
KS5	EdX Free online Courses
KS5	Coursera –Free Online Courses
KS5	Math MOOCs and Free Online Courses
KS5	Free Ivy League Online Courses
KS5	Harvard Online Courses
KS5	Yale Online Courses
	Magazines and Journals
KS4-5	The Intrepid Mathematician – Online Mathematics Journal.
KS5	Scitable – A journal from Nature Education.
KS4-5	plus.maths.org – Online magazine about mathematics.
KS4-5	Chalkdust Magazine - a magazine for the mathematically curious
KS5	Scientificamerican.com
KS5	Significancemagazine.com
KS5	Newscientist.com
	Competitions
KS3	UK Mathematics Trust - Provides competitions focused on problem solving teamwork and mathematical enrichment.

KS2-5	Greenpower Trust - Science technology Maths and Engineering challenge to design, build and race an electric car for children aged 9 upwards.
KS2-5	f1inschools - Students aged 9 to 19 deploy CAD/CAM software to collaborate, design, analyse, manufacture, test, and then race miniature compressed air powered cars.
KS3-5	Teentech Awards - a range of competitions and opportunities for student to get involved with STEM Projects and Competitions
	Events
KS4-5	Royal Institution masterclasses - Maths, computing and engineering.
KS4	UK Mathematics Trust - Mathematical Circle residential for year 10, Summer Schools for years 10/11 and a mentoring scheme.
KS5	Problem Solving Matters - problem solving course for year 12 students applying to read Maths hosted by a number of universities
KS4	PROMYS - Summer residential for KS4 students with mathematical ability.
KS3-5	It All adds Up - Oxford University Maths conferences for girls
KS5	Oxford University Computer Science Events
KS4-5	Subscribe to the Maths and Stats mailing list for more information
KS4-5	The joint Cambridge-Oxford webinar

Resources for teachers

Resource	Notes
STEM Learning - Maths	Resources and CPD for teachers teaching Maths at all levels
Mathematicsmastery.org	Free resources for duration of Covid 19 virus. A range of resources to improve attainment and enjoyment of maths.
Mathsbox.org	4000 free resources for teachers (Key Stage 1 to A Level).
Khanacademy.org	Maths resources for students/teachers/parents.
Drfrostmaths.com	Online learning resources including videos and exam questions for all ages.
Mrbartonmaths.com	Resources for students and teachers at GCSE.
Advanced Mathematics Support Programme	A programme to increase participation in Core Maths, AS/A level Mathematics and Further

Resource	Notes
	Mathematics, and improve the teaching of these level 3 maths qualifications.
Undergroundmathematics.org	Interesting resources for teaching Maths A Level.
Advanced Mathematics Support Programme	Online professional development and live events for teachers.
TES Resources	Resources for teachers, lesson plans and ideas for activities.
London Mathematical Society	Lectures/ speakers and workshop leaders come into schools across the country.
The Royal Institution	Lectures/masterclasses.
Resourceaholic	Free resources for teaching secondary schools maths.
Mathsbox.org	4000 free Maths resources KS1-5.
The training partnership.org	Maths in Action activities.
Maths Inspiration	Annual Maths festival for year 11 and KS5.
Womeninstem.co.uk	Resources to help inspire young women to study STEM subjects.
The NCETM Maths Podcast	A regular podcast from the National Centre for Excellence in the Teaching of Mathematics (NCETM), exploring areas of interest and debate in the teaching of maths across all school and college phases.
CREST Projects and Awards	Challenges and projects for all ages groups
Joint Mathematical Council report	Report about additional maths tests for university admissions
Resources for Maths Teachers PD videos	The Loughborough LUMEN CPD Resources for Maths Teachers