

Maths Resources

	Additional Reading	
KS5	<p>Worcester College Bookshelf Project</p> <p>Maths “<i>Closing the Gap: The Quest to Understand Prime Numbers</i> - Vicky Neale”</p>	https://www.worc.ox.ac.uk/applying/access-and-outreach/resources/bookshelf
KS5	Staircase 12	https://www.univ.ox.ac.uk/applying-to-univ/reading-bank/?category=humanities&subcategory=english
KS4-5	Maths questions set by Oxford tutors	https://sjcinspire.com/category/maths+questions/
KS5	<p>Bridging Material</p> <ul style="list-style-type: none"> • Alcock, Lara How to Study for a Mathematics Degree (2012) • Allenby, Reg Numbers and Proofs (1997) • Earl, Richard Towards Higher Mathematics: A Companion (2017) • Houston, Kevin How to Think Like a Mathematician (2009) • Liebeck, Martin A Concise Introduction to Pure Mathematics (2000) <p>Popular Mathematics</p> <ul style="list-style-type: none"> • Acheson, David 1089 and All That (2002), The Calculus Story (2017) • Bellos, Alex Alex’s Adventures in Numberland (2010) • Clegg, Brian A Brief History of Infinity (2003) • Courant, Robbins and Stewart What is Mathematics? (1996) 	

- Devlin, Keith Mathematics: The New Golden Age (1998), The Millennium Problems (2004), The Unfinished Game (2008)
- Dudley, Underwood Is Mathematics Inevitable? A Miscellany (2008)
- Elwes, Richard MATHS 1001 (2010), Maths in 100 Key Breakthroughs (2013)
- Gardiner, Martin The Colossal Book of Mathematics (2001)
- Gowers, Tim Mathematics: A Very Short Introduction (2002)
- Hofstadter, Douglas Gödel, Escher, Bach: an Eternal Golden Braid (1979)
- Körner, T. W. The Pleasures of Counting (1996)
- Neale, Vicky Closing the Gap: the quest to understand prime numbers (2017)
- Odifreddi, Piergiorgio The Mathematical Century: The 30 Greatest Problems of the Last 100 Years (2004)
- Piper, Fred & Murphy, Sean Cryptography: A Very Short Introduction (2002)
- Polya, George How to Solve It (1945)
- Sewell, Michael (ed.) Mathematics Masterclasses: Stretching the Imagination (1997)
- Singh, Simon The Code Book (2000), Fermat's Last Theorem (1998)
- Stewart, Ian Letters to a Young Mathematician (2006), 17 Equations That Changed The World (2012)

History and Biography

- Burton, David The History of Mathematics (2007)
- Derbyshire, John Unknown Quantity – A Real and Imaginary History of Algebra (2006)
- Goldstein, Rebecca Incompleteness – The Proof and Paradox of Kurt Gödel (2005)
- Gray, Jeremy Hilbert's Challenge (2000)
- Hellman, Hal Great Feuds in Mathematics (2006)
- Hodgkin, Luke A History of Mathematics – From Mesopotamia to Modernity (2005)
- Hodges, Andrew Alan Turing: The Enigma (1992)
- Stedall, Jacqueline The History of Mathematics: A Very Short Introduction (2012)
- Pesic, Peter Abel's Proof (2004)
- Reid, Constance Julia: A Life in Mathematics (1996)
- Stillwell, John Mathematics and Its History (2002)

Websites

KS1-4	Mathematics mastery free for duration of Covid 19 virus a range of resources to improve attainment and enjoyment of maths	https://www.mathematicsmastery.org/secondary-programme-teacher-training-classroom-resources?phase=secondary&c=5e78d17ac60f3
KS3-4	Parallel Maths project lots of short challenges	https://parallel.org.uk/
ALL	Khan academy maths resources for students/teachers/parents	https://www.khanacademy.org/
ALL	Dr Frost Maths- on line learning resources including videos and exams questions for all ages	https://www.drfrostmaths.com/
KS1-5	The Maths Zone resources for students in all years	https://mathszone.co.uk/category/using-applyin
ALL	Nrich maths resources for students of all ages- mathematical problems, games and challenges	https://nrich.maths.org/
KS4	Nrich – Adventures with Complex numbers	https://nrich.maths.org/complexadventure
KS3-5	The Art of Problem Solving Resources	https://artofproblemsolving.com/resources
All	Bletchley park learning resources- maths and code breaking	https://bletchleypark.org.uk/learn/resources/external-resources
ALL	Educational Maths games	https://www.purposegames.com/
KS1-5	Maths box – 4000 free resources	https://www.mathsbox.org.uk/index1.php
Yr 11	Challenging questions involving input from a variety of subjects	https://sjcinspire.com/students/year-11-inspire-programme/
KS5	Advanced Mathematics Support Programme- provides materials and events for Core Maths, AS/A2 and Further Maths also offers student and teacher events	https://amsp.org.uk/
KS4	AMSP- a range of GCSE Maths resources for students	https://amsp.org.uk/students
KS5	Underground Maths- interesting resources for teaching Maths A Level	https://undergroundmathematics.org/
KS5	Tom Rocks Maths – Oxford University tutor with lots of interesting resources	https://tomrocksmaths.com/
KS4-5	Oxford Mathematics Alphabet	https://www.maths.ox.ac.uk/about-us/life-oxford-mathematics/oxford-mathematics-alphabet
ALL	Maths Games	https://www.coolmathgames.com/
ALL	Chess	https://chessplus.net/
KS4	S-Cool Maths GCSE revision	https://www.s-cool.co.uk/gcse/maths
KS4	GCSE Bitesize- Maths	https://www.bbc.co.uk/bitesize/subjects/z38pycw
KS3	KS3 Bitesize Maths	https://www.bbc.co.uk/bitesize/subjects/zqhs34j
KS4	Spark Notes revision resources	https://www.sparknotes.com/math/
KS2-4	Purpose games- educational games in all subjects	https://www.purposegames.com/

	Radio/Podcasts/Videos/Lectures/Documentaries/Moocs	
KS4-5	BBC Maths documentaries - The History of Maths Hannah Fry's Mysterious World of Maths 10 Best documentaries for teaching Maths	https://www.bbc.co.uk/programmes/b00dxjls https://www.bbc.co.uk/programmes/b0bn9dth https://www.bbc.co.uk/programmes/b0bn9dth https://www.aetteachers.org/index.php/blog/1739-10-best-documentaries-for-teaching-mathematics
KS4/5	Numberphile- videos on a range of Maths topics	https://www.numberphile.com/
KS4-5	Ted Talks - Maths playlist	https://www.ted.com/playlists/189/math_talks_to_blow_your_mind
	BBC Four in Our Time- Maths podcasts	https://www.bbc.co.uk/programmes/p00545hk https://www.bbc.co.uk/sounds/play/p00545hk
KS4-5	Podcasts focusing on interesting areas of Maths	https://player.fm/series/the-ncetm-maths-podcast-2361943
KS4	GCSE Revision podcasts	https://www.podbean.com/podcast-detail/9c8jd-87973/Revise---GCSE-Maths-Revision-Podcast
KS4	GCSE Maths Revision podcasts	https://www.listennotes.com/podcasts/revise-gcse-maths-revision-seneca-learning-IO7t6faBhqW/
KS4-5	Free GCSE and A Levels Maths podcasts	https://www.senecalearning.com/blog/gcse-a-level-podcasts-by-seneca/
KS4-5	Mr Barton's Maths- resources for students and teachers GCSE and A Level	http://www.mrbartonmaths.com/students/

KS5	Free Maths MOOCS	https://www.mooc-list.com/tags/math?title=mathematics&field_start_date_value_op=between&field_start_date_value%5Bvalue%5D%5Bdate%5D=&field
KS5	STEP support programme for STEP Maths exam	https://maths.org/step/
KS5	Video on how to prepare for Oxford University's Maths Admission Test	https://www.youtube.com/watch?v=3esQVND-c4&feature=youtu.be
KS5	Oxford University Maths Lectures available on line As well as broadcasting on live streaming and Facebook, most lectures are available on our YouTube channel Undergraduate videos	http://www.maths.ox.ac.uk/events/public-lectures-events https://www.youtube.com/channel/UCLnGGRG_uGSPLBLzyhg8dQ . https://www.youtube.com/playlist?list=PL4d5ZtfQonW0A4VHeiY0gSkX1QEraaacE
KS5	A series of talks and lectures by Oxford's Mathematicians exploring the power and beauty of their subject	https://podcasts.ox.ac.uk/series/secrets-mathematics
KS5	Dr Vicky Neale's Maths resources and blog	http://people.maths.ox.ac.uk/neale/index.html
KS3-4	Christmas Maths lectures by Marcus du Sautoy for KS3-4	https://www.maths.ox.ac.uk/study-here/prospective-undergraduates-old/outreach/online-lectures
KS5	London Mathematical Society popular videos broad popular appeal A Level maths can be useful	https://www.youtube.com/channel/UCvp7jsbXjx2k8sGEkdtWCAw
KS3	Birmingham University popular Maths Lectures for advanced GCSE and A Level Students	https://www.birmingham.ac.uk/schools/mathematics/news-and-events/birmingham-popular-maths-lecture.aspx
KS5	Fermat's last Theorem videos	https://www.youtube.com/watch?v=qiNcEguuFSA
	Magazines and Journals	
KS5	Plus Magazine- articles about maths, podcasts, reviews and puzzles	https://plus.maths.org/content/

KS5	The Economist	https://www.economist.com/
KS5	Chalkdust Magazine written by Maths students at UCL	http://chalkdustmagazine.com/
	Competitions	
KS3	UK Mathematics Trust provides competitions focused on problem solving teamwork and mathematical enrichment	https://www.ukmt.org.uk/
	Events	
KS4-5	Royal Institution masterclasses in Maths computing and engineering	https://www.rigb.org/education/masterclasses
KS4	UK Mathematics Trust offers Mathematical Circle residential for year 10, Summer Schools for years 10/11 and a mentoring scheme	https://www.ukmt.org.uk/
KS4	PROMYS - Summer residential for KS4 students with mathematical ability	https://promys-europe.org/

Resources for Teachers

Online professional development and live events for teachers	https://amsp.org.uk/
TES maths resources for teachers, lesson plans and ideas for activities	https://www.tes.com/resources/search/?q=maths
The London Mathematical Society- lectures/ speakers and workshop leaders come into schools across the country	https://www.lms.ac.uk/events
The Royal Institution- Lectures/masterclasses	https://www.rigb.org/education/masterclasses
Resourceaholic – free resources for teaching secondary schools maths	https://www.resourceaholic.com/
4000 free Maths resources KS1-5	https://www.mathsbox.org.uk/index1.php
Maths in Action activities- costs apply	https://thetrainingpartnership.org.uk/study-days/subjects/math/
Maths Inspiration Annual Maths festival for year 11 and KS5	http://www.mathsinspiration.com/math-fest-2020

