



SUPER CURRICULUM

Years 7 to 8



Reading



- The Number Devil - Hans Magnus Enzensberger
- Murderous Maths - Kjartan Boskitt
- The Code Book (abridged) - Simon Singh
- Alex's Adventures in Numberland - Alex Bellos
- Alex through the Looking Graph - Alex Bellos

Watching



- <https://www.youtube.com/user/numberphile> Popular twitter, YouTube and podcast content
- https://www.ted.com/playlists/189/math_talks_to_blow_your_mind TED Talks: Maths Playlist
- <https://www.rigb.org/christmas-lectures/2019-secrets-and-lies> Royal Institution Christmas Lectures 2019.
- 'TheMathsProf' <https://www.youtube.com/c/TheMathsProf>
- 'PlusMaths' <https://plus.maths.org/content/> (an online magazine describing the use of mathematics in real life).
- Parallel Circles <https://parallel.org.uk/circles> - regular, live, online discussions with professional mathematicians, led by Simon Singh.
- StandUpMaths - <https://www.youtube.com/user/standupmaths>
- 'Chalkdust' <https://chalkdustmagazine.com/> - an online magazine for the mathematically curious.

Listening



- More or less behind the stats: <http://podcasts.ox.ac.uk/units/mathematical-institute>
- Maths Appeal: Maths podcast hosted by TV presenter and University Challenge contestant Bobby Seagull, aimed at making maths easy and fun for all.
- Math Dude: Another podcast designed to allow everyone to access maths
- Simon Singh's Numbers: Another podcast designed to allow everyone to access maths

Doing



- BBC Bitesize launch daily home learning lessons for all ages.
- Khan Academy Activities.
- Parallelograms <https://parallel.org.uk/parallelograms> - weekly maths puzzles designed to test problem solving abilities.

Enrichment



- KS3 Advanced Maths
- Content includes UKMT Junior Maths Challenge preparation, Code Breaking, Egyptian fractions and more.

Competitions



- UKMT Intermediate Maths Challenge (February - Year 11 and below)
- UKMT Intermediate Team Challenge (Year 11 and below)*
- UKMT Junior Maths Challenge (April - Year 8 and below)
- UKMT Junior Team Challenge (Year 8 and below)*



SUPER CURRICULUM

GCSE (Years 9 to 11)



Reading



- Thinking In Numbers - Daniel Tammet
- The Code Book - Simon Singh
- The Indisputable Existence of Santa Claus: The Mathematics of Christmas – Thomas Evans and Hannah Fry
- The Mathematics of Love – Hannah Fry
- Hello World – Hannah Fry
- The Signal and the Noise – Nate Silver

Watching



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- <https://www.rigb.org/christmas-lectures/2019-secrets-and-lies> Royal Institution Christmas Lectures 2019.
- 'MySecretMaths tutor' <https://www.youtube.com/c/MySecretMathTutor>
- 'PatrickJMT' <https://www.youtube.com/c/patrickjmt>
- 'TheMathsProf' <https://www.youtube.com/c/TheMathsProf>
- 'PlusMaths' <https://plus.maths.org/content/> (an online magazine describing the use of mathematics in real life).
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Doing



- BBC Bitesize launch daily home learning lessons for all ages.
- Khan Academy Activities.
- <https://maths.org/home>
- <https://twitter.com/mmpmaths?lang=en>
- University of Cambridge site with learnings for both GCSE and 16+ students. - Parallelograms
<https://parallel.org.uk/parallelograms> - weekly maths puzzles designed to test problem solving abilities.

Enrichment



- KS4 Advanced Maths
- Pupils are encouraged to study towards the AQA Further Mathematics (Level 2) qualification.
- The content of the course includes topics that would otherwise only be met for the first time at A Level (trigonometric equations, trigonometric identities, matrices, binomial expansion, equation of a circle, factor theorem)

Competitions



- UKMT Girls Olympiad (October – Year 13, Year 12 and Year 11)
- UKMT Intermediate Maths Challenge (February - Year 11 and below)
- UKMT Intermediate Team Challenge (Year 11 and below)*



SUPER CURRICULUM

A Level (Sixth Form)



Reading



- The Book of Curious and Interesting Puzzles - David Wells
- What is Mathematics? - Richard Courant & Herbert Robbins
- A Brief History of Time – Stephen Hawking
- Beyond Infinity – Eugenia Cheng
- Fermat's Last Theorem – Simon Singh
- 1089 and All That: A Journey Into Mathematics - David Acheson
- Closing the Gap: The Quest to Understand Prime Numbers – Vicky Neale
- The Penguin Dictionary of Curious and Interesting Numbers - David Wells
- Crypto - Steven Levy
- The Code Book - Simon Singh
- The Music of the Primes – Marcus du Sautoy
- Professor Stewart's Cabinet of Mathematical Curiosities – Ian Stewart
- Uncle Petros and Goldbach's Conjecture - Apostolos Doxiadis
- Introducing Fractal Geometry - Nigel Lesmoir-Gordon, Will Rood & Ralph Edney
- Journey Through Genius – William Dunham
- Five Equations That Changed the World - Michael Guillen
- The Book of Numbers - Tim Glynne-Jones
- The Mathematics of Love – Hannah Fry
- Hello World – Hannah Fry
- The Signal and the Noise – Nate Silver
- The Mathematical Olympiad Handbook - A. Gardiner
- Letters to a Young Mathematician - Ian Stewart
- Mathematical Mountaintops - John L. Casti
- What Do You Care What Other People Think? - Richard P Feynmann
- God Created The Integers - Stephen Hawking
- A Mathematician's Apology - G.H. Hardy
- Chaos - James Gleick
- Lewis Carroll In Numberland - Robin Wilson
- Godel, Escher, Bach: An Eternal Golden Braid - Douglas R. Hofstadter
- Chaotic Fish Ponds and Mirror Universes - Richard Elwes

Watching



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- Simon Singh's Numbers: Another podcast designed to allow everyone to access maths

Doing



- Moocs: Short/Medium length free courses run by Universities around the world, allowing participants to gain an insight into many different concepts, mathematical and otherwise.
- <https://maths.org/home>
- <https://twitter.com/mmpmaths?lang=en>
- University of Cambridge site with learnings for both GCSE and 16+ students.
- UKMT previous challenges and solutions
- <https://www.ukmt.org.uk/competitions/solo/junior-mathematical-challenge/archive>
- <https://www.ukmt.org.uk/competitions/solo/intermediate-mathematical-challenge/archive>
- <https://www.ukmt.org.uk/competitions/solo/senior-mathematical-challenge/archive>
- STEP past papers and preparation
- <https://www.admissionstesting.org/for-test-takers/step/preparing-for-step/>
- MAT past papers and preparation
- <https://www.maths.ox.ac.uk/study-here/undergraduate-study/maths-admissions-test>
- Parallelograms <https://parallel.org.uk/parallelograms> - weekly maths puzzles designed to test problem solving abilities.

Enrichment



- KS5 Oxbridge
- Content includes Further Algebra, Combinatorics, Number Theory, Logic, Further Geometry and more.

Competitions



- UKMT Senior Maths Challenge (November - Year 12 and Year 13)
- UKMT Senior Team Challenge (Year 12 and Year 13)*
- UKMT Girls Olympiad (October – Year 13, Year 12 and Year 11)