


















# Maths Super Curriculum Year 7





 <b>The Everything Kids: Maths Puzzle Book, by Meg Clements:</b> - Puzzles, games and trivia; find how to make maths fun and entertaining.	 <b>Life of Fred Maths - by Stanley F. Schmidt</b> - Series of stories based on 5 year math genius Fred Gauss.	 <b>Wild Maths – explore, imagine, experiment and create!</b> – try and explore one of the games from the rich site: <a href="http://wild.maths.org/">http://wild.maths.org/</a>
 <b>King’s College London</b> – visit KCL site and attempt one of the weekly challenge competitions – <a href="https://www.kcl.ac.uk/mathsschool/Weekly-MathsChallenge/Weekly-mathschallenge.aspx">https://www.kcl.ac.uk/mathsschool/Weekly-MathsChallenge/Weekly-mathschallenge.aspx</a>	 <b>Research Pythagoras and the maths he explored – find out all his contributions to modern Mathematics.</b>	 <b>Create a song or rhyme to help you remember your formulae.</b>
 <b>Create poster on everything you know about different shapes</b> – develop it further with additional facts you learn through research.	 <b>Science Museum – Maths Gallery -</b> visit newly open section of Science Museum involving various aspects of Maths. <a href="http://www.sciencemuseum.org.uk/visitmuseum/plan_your_visit/exhibitions/mathematics?keywords=mathematics">http://www.sciencemuseum.org.uk/visitmuseum/plan_your_visit/exhibitions/mathematics?keywords=mathematics</a>	 <b>Legoland – Imagination Centre – Lego Education featuring Mindstorms</b> – visit maths and programming workshop in Legoland. <a href="https://www.legoland.co.uk/explore-the-resort/attractions/">https://www.legoland.co.uk/explore-the-resort/attractions/</a>
 <b>Watch biography based drama on Srinivasa Ramanujan Indian Mathematician in Trinity College, England</b> – ‘The Man Who Knew Infinity’ directed by Matthew Brown.	 <b>Listen to the podcast on mathematics, logic and puzzles with Chaim Goodman-Strauss and Kyle Kellmas series – The Math Factor.</b> <a href="http://mathfactor.uark.edu/">http://mathfactor.uark.edu/</a>	 <b>A Brief History of Mathematics - by Marcus du Sautoy</b> – podcast – 10 episodes BBC 4 Radio – <a href="http://www.bbc.co.uk/programmes/b00srz5b">http://www.bbc.co.uk/programmes/b00srz5b</a>
 <b>Adding and subtracting fractions / Fractions / PreAlgebra / Khan Academy:</b> - Online tutor on adding and subtracting fractions. - <a href="https://www.youtube.com/watch?v=52ZIXsFJUL">https://www.youtube.com/watch?v=52ZIXsFJUL</a>	 <b>Watch the documentary: The Story of 1</b> – history of numbers presented by Terry Jones, directed by Nick Murphy.	 <b>BBC Universe Documentary The Great Math Mystery BBC Documentary 2015</b> – <a href="https://www.youtube.com/watch?v=JiH7IMGW60A">https://www.youtube.com/watch?v=JiH7IMGW60A</a>

	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit



# Maths Super Curriculum Year 8


















 <p><b>Alex's Adventures in Numberland</b>, by Alex Bellos - an exhilarating cocktail of history, reportage and mathematical proofs that will leave you awestruck</p>	 <p><b>The Colossal Book of Short Puzzles and Problems</b>, by Martin Gardner - collection of short and inventive problems by popular mathematics and science writer</p>	 <p>Explore some of the problems from the nrich.maths site to develop your problems solving skills - <a href="http://nrich.maths.org/secondarylower">http://nrich.maths.org/secondarylower</a></p>
 <p><b>Wild Maths – explore, imagine, experiment and create!</b> – try and explore one of the games from the nrich site: <a href="http://wild.maths.org/">http://wild.maths.org/</a></p>	 <p><b>King's College London</b> – visit KCL site and attempt one of the weekly challenge competitions – <a href="https://www.kcl.ac.uk/mathsschool/Weekly-Maths-Challenge/Weeklymaths-challenge.aspx">https://www.kcl.ac.uk/mathsschool/Weekly-Maths-Challenge/Weeklymaths-challenge.aspx</a></p>	 <p><b>Design a house or a school, producing full scale drawing, calculating area and showing all the relevant measurements. Complete the task by creating Paper or cardboard model.</b></p>
 <p><b>Bletchley Park</b> – visit Blechley Park and explore the world of coding and maths <a href="https://www.bletchleypark.org.uk/visit-us">https://www.bletchleypark.org.uk/visit-us</a></p>	 <p><b>Science Museum – Maths Gallery</b> - visit newly open section of Science Museum involving various aspects of Maths <a href="http://www.sciencemuseum.org.uk/visitmuseum/plan_your_visit/exhibitions/mathematics?keywords=mathematics">http://www.sciencemuseum.org.uk/visitmuseum/plan_your_visit/exhibitions/mathematics?keywords=mathematics</a></p>	 <p><b>Circle Song</b> – use it to memorise area and circumference formulae – <a href="https://www.youtube.com/watch?v=z4SUypJZxo">https://www.youtube.com/watch?v=z4SUypJZxo</a></p>
 <p><b>Listen to maths documentary podcast – Relatively Prime, by Samuel Hansen</b> – <a href="http://relprime.com">http://relprime.com</a></p>	 <p><b>Listen to Travels in a Mathematical World podcast</b>, by Peter Rowlett - featuring mathematicians talking about their work as well as features on maths history and maths news; <a href="http://www.travelsinamathematicalworld.co.uk/">http://www.travelsinamathematicalworld.co.uk/</a></p>	 <p><b>Beautiful Equations (2010)</b> – BBC documentary featuring Stephen Hawkins and Matthew Collins (maths and art together) <a href="https://www.youtube.com/watch?v=059xlxb3tM">https://www.youtube.com/watch?v=059xlxb3tM</a></p>
 <p><b>Documentary : Top 10 equations that changed the world   1080p</b> - <a href="https://www.youtube.com/watch?v=0K-t090uvL4">https://www.youtube.com/watch?v=0K-t090uvL4</a></p>	 <p><b>BBC Universe Documentary The Great Math Mystery BBC Documentary 2015</b> – <a href="https://www.youtube.com/watch?v=JiH7IMGW60A">https://www.youtube.com/watch?v=JiH7IMGW60A</a></p>	 <p><b>Watch Movie based on mathematician Alan Turing's involvement in code breaking of Enigma</b> – 'The Imagination Games' directed by Morten Tyldum.</p>









	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit



# Maths Super Curriculum Year 9

















 <p><b>How not to be wrong: The Hidden Maths of Everyday Life</b> Read Jordan Ellenberg's bestseller - it shows us, maths touches on everything we do, and a little mathematical knowledge reveals the hidden structures that lie beneath world's messy and chaotic.</p>	 <p><b>The Maths Behind the Magic</b>, by Adam Boddison – exploring maths and magic.</p>	 <p><b>This is not a Maths Book</b>, by Anna Weltman – fusion of maths and art/drawing – work through fun drawing challenges with a mathematical basis.</p>
 <p><b>Research Srinivasa Ramanujan and his influences on modern Mathematics.</b></p>	 <p><b>Wild Maths – explore, imagine, experiment, create!</b> – try and explore one of the games from the nrich site: <a href="http://wild.maths.org/">http://wild.maths.org/</a></p>	 <p><b>King's College London</b> – visit KCL site and attempt one of the weekly challenge competitions – <a href="https://www.kcl.ac.uk/mathsschool/Weekly-Maths-Challenge/Weeklymaths-challenge.aspx">https://www.kcl.ac.uk/mathsschool/Weekly-Maths-Challenge/Weeklymaths-challenge.aspx</a></p>
 <p><b>Science Museum – Maths Gallery</b> - visit newly open section of Science Museum involving various aspects of Maths. <a href="http://www.sciencemuseum.org.uk/visitmuseum/plan_your_visit/exhibitions/mathematics?keywords=mathematics">http://www.sciencemuseum.org.uk/visitmuseum/plan_your_visit/exhibitions/mathematics?keywords=mathematics</a></p>	 <p><b>Bletchley Park</b> – visit Blechley Park and explore the world of coding and maths. <a href="https://www.bletchleypark.org.uk/visit-us">https://www.bletchleypark.org.uk/visit-us</a></p>	 <p><b>Listen to maths documentary podcast – Relatively Prime</b>, by Samuel Hansen – <a href="http://relprime.com/">http://relprime.com/</a></p>
 <p><b>Listen to Travels in a Mathematical World</b> podcast, by Peter Rowlett - featuring mathematicians talking about their work as well as features on maths history and maths news; <a href="http://www.travelsinamathematicalworld.co.uk/">http://www.travelsinamathematicalworld.co.uk/</a></p>	 <p><b>Watch Movie based on Biography of John Forbes Nash Jr.</b> – mathematical genius – ‘A Beautiful Mind’ directed by Ron Howard.</p>	 <p><b>Man and the rise of Civilisation episode 1 – ‘The Beginnings of Numbers’</b> - <a href="https://www.youtube.com/watch?v=DVngFvtZwAU">https://www.youtube.com/watch?v=DVngFvtZwAU</a></p>
 <p><b>Man and the rise of Civilisation episode 2 – ‘The Elements’</b> - <a href="https://www.youtube.com/watch?v=4CRewM5VHw">https://www.youtube.com/watch?v=4CRewM5VHw</a></p>	 <p><b>Man and the rise of Civilisation episode 3 and 4 – ‘The Divinity of Numbers’ &amp; ‘The world in Motion’</b> - <a href="https://www.youtube.com/watch?v=DYqrbRLclqs">https://www.youtube.com/watch?v=DYqrbRLclqs</a> <a href="https://www.youtube.com/watch?v=hwHccZ_9aLg">https://www.youtube.com/watch?v=hwHccZ_9aLg</a></p>	 <p><b>Be inspired by series of Man and the rise of Civilisation documentaries and create the time line of key number and maths related discoveries.</b></p>

	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit



# Maths Super Curriculum Year 10















 <p><b>Why do buses come in threes? The Hidden Mathematics of Everyday Life.</b> Rob Eastaway and Jeremy Wyndham's book will change the way you see the world!</p>	 <p><b>What is Mathematics? An elementary approach to Ideas and Methods</b> Richard Courant's book offers an entertaining and accessible portrait of the mathematical world.</p>	 <p><b>Listen to maths documentary podcast – Relatively Prime</b>, by Samuel Hansen – <a href="http://relprime.com/">http://relprime.com/</a></p>
 <p><b>The infinite hotel paradox</b> <a href="https://www.youtube.com/watch?v=Uj3_KgkI9Zo&amp;feature=youtu.be">https://www.youtube.com/watch?v=Uj3_KgkI9Zo&amp;feature=youtu.be</a></p>	 <p>Research the life of Alan Turing and his contribution to the development of Mathematics. This website provides a starting point... <a href="https://nrich.maths.org/8050">https://nrich.maths.org/8050</a></p>	 <p>Research Archimedes and contributions to the world of Mathematics.</p>
 <p>Create a revision video suitable for Key Stage 3 students on a topic of your choice.</p>	 <p>Research the Fibonacci Sequence and how it occurs in nature. This could be a starting point. <a href="http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibnat.html">http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibnat.html</a></p>	 <p>Research the origins of Pi and how to derive it. How many decimal places can you remember it to?</p>
 <p>The Four Colour Map Theorem <a href="https://youtu.be/NgbK43jB4rQ">https://youtu.be/NgbK43jB4rQ</a></p>	 <p>Develop your understanding of irrational numbers and prove that root 2 is irrational. <a href="https://www.khanacademy.org/math/algebra/rational-and-irrational-numbers/proofs-concerning-irrational-numbers/v/prove-that-square-root-of-2-is-irrational">https://www.khanacademy.org/math/algebra/rational-and-irrational-numbers/proofs-concerning-irrational-numbers/v/prove-that-square-root-of-2-is-irrational</a></p>	 <p>Man and the rise of Civilisation episode 1 – 'The Beginnings of Numbers' - <a href="https://www.youtube.com/watch?v=DVngFvtZwAU">https://www.youtube.com/watch?v=DVngFvtZwAU</a></p>
 <p><b>Bletchley Park</b> – visit Bletchley Park and explore the world of coding and maths. <a href="https://www.bletchleypark.org.uk/visit-us">https://www.bletchleypark.org.uk/visit-us</a></p>	 <p><b>Be inspired by series of Man and the rise of Civilisation documentaries and create the time line of key number and maths related discoveries.</b></p>	

	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit



# Maths Super Curriculum Year 11


















 <b>Magical Mathematics: The mathematical ideas that animate great magic tricks</b> Persi Diaconis and Ron Graham's book reveals the secrets of fun-to-perform card tricks.	 <b>The equation that couldn't be solved: How Mathematical Genius Discovered the Language of Symmetry</b> Mario Livio explores the laws of symmetry, elegantly unifying scientific and artistic principles.	 <b>Listen to maths documentary podcast – Relatively Prime</b> , by Samuel Hansen – <a href="http://relprime.com/">http://relprime.com/</a>
 Research Pierre de Fermat and all his discoveries in CALCULUS.	 Research the life and work of Carl Friedrich Gauss and develop your understanding of his contributions to mathematics.	 Develop your understanding of series and surds by exploring and attempting this problem. <a href="https://nrich.maths.org/901">https://nrich.maths.org/901</a>
 Enjoying solving quadratic equations? Test yourself on these MEGA QUADRATIC EQUATIONS. <a href="http://nrich.maths.org/11009">http://nrich.maths.org/11009</a>	 Discover GAME THEORY by watching this video. <a href="https://www.youtube.com/watch?v=MHShtjGgSY&amp;feature=youtu.be">https://www.youtube.com/watch?v=MHShtjGgSY&amp;feature=youtu.be</a>	 Can you prove the quadratic formula? Find out how by watching this video. <a href="https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/v/proof-of-quadratic-formula">https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/v/proof-of-quadratic-formula</a>
 Can you take the square root of a negative number? Learn about IMAGINARY numbers here... <a href="https://www.khanacademy.org/math/algebra2/introduction-to-complex-numbers-algebra2?t=practice">https://www.khanacademy.org/math/algebra2/introduction-to-complex-numbers-algebra2?t=practice</a>	 Contribute to a year-wide revision resource to support each other in revising for GCSE.	 Develop your problem solving skills by trying these UK Maths Challenge questions. <a href="http://www.drfrostmaths.com/homework/browse.php?mode=ukmt">http://www.drfrostmaths.com/homework/browse.php?mode=ukmt</a>









	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit



# Maths Super Curriculum KS5















 Read 17 Equations that changed the World by Ian Stewart <b>Seventeen Equations that Changed the World</b> by Ian Stewart (ISBN: 9781846685316)	 Read The Man Who Knew Infinity by Robert Kanigel <b>The Man Who Knew Infinity: Life of the Genius Ramanujan New Ed</b> by Robert Kanigel (ISBN: 9780349104522)	 The Mathematics of Ciphers by S.C Coutinho <b>The Mathematics of Ciphers: Number Theory and RSA Cryptography</b> by S.C. Coutinho (ISBN:9781568810 829)
 Concepts of Modern Mathematics by Ian Stewart. <b>Concepts of Modern Mathematics by Ian Stewart</b> (ISBN: 8601400596593)	 A History of Mathematics by Carl B Bouger. <b>A History of Mathematics, Third Edition 3rd Revised edition</b> by Carl B. Boyer, Uta C. Merzbach (ISBN: 8601405590862)	 Principal Mathematics.
 Paradoxes in Mathematics by Stanley J Farlow. <b>Paradoxes in Mathematics</b> (Dover Books on Mathematics) [Stanley J. Farlow] on ... There's more than one way to define a paradox. (ISBN-10: 048649716X; ISBN-13: 978-0486497167)	 Read some of The Math Book by Clifford A Pickover. <b>The Math Book: From Pythagoras to the 57th Dimension, 250 Milestones in the History of Mathematics</b> (Paperback) ... (ISBN: 9781402788291)	 Things to make and do in the fourth dimension by Matt Parker. <b>Things to Make and Do in the Fourth Dimension</b> by Matt Parker (ISBN: 9780141975863)
 Mathematics by Jan Gullberg. <b>Mathematics: From the Birth of Numbers</b> by Jan Gullberg, Peter Hilton (ISBN: 9780393040029)	 Mathswatch VLE Centre id: sandringham Login, use your network login being careful about case. Include all numbers.	 The map of Mathematics – Domain of Science. <a href="https://www.youtube.com/watch?v=OmJ-4B-mS-Y">https://www.youtube.com/watch?v=OmJ-4B-mS-Y</a>
 How does maths guide our ships at sea? <a href="https://www.youtube.com/watch?v=AGCUm_jWtt4">https://www.youtube.com/watch?v=AGCUm_jWtt4</a>	 Documentary: Particle Fever Particle Fever follows six brilliant scientists during the launch of the Large Hadron Collider, marking the start-up of the biggest and most expensive experiment in the history of the planet, pushing the edge of human innovation.	 Hidden Figures The story of a team of female African-American mathematicians who served a vital role in NASA during the early years of the U.S. space program.









	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit



# Maths Super Curriculum KS5
















 The Imitation Game <a href="http://www.imdb.com/title/tt2084970/">http://www.imdb.com/title/tt2084970/</a>	 Geoff Riley videos <a href="https://www.youtube.com/channel/UCe83jLdZ3PuqVwAHe6B3U2A">https://www.youtube.com/channel/UCe83jLdZ3PuqVwAHe6B3U2A</a>	 Julia Robinson and Hilbert's Tenth Problem A one-hour biographical documentary, Julia Robinson and Hilbert's Tenth Problem tells the story of an important American mathematician against a background of mathematical ideas.
 Film: The Story of 1 <b>The Story of 1</b> is a BBC documentary about the history of numbers, and in particular, the number 1. It was presented by former Monty Python member Terry Jones. It was released in 2005.	 Research how Ramanujan got accepted into Cambridge.	 Research into Daniel Bernoulli and his works.
 Research Ada Lovelace and her works.	 Research Ramanujan on <a href="http://www.famousmathematicians.com/">http://www.famousmathematicians.com/</a>	 Research Alan Turning.
 Research Carl Friedrich Gauss.	 Research the creation of Algebra.	 Research the works of John Forbes Nash Jr.









	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit



# Maths Super Curriculum KS5



 <p>Visit Bletchley Park and explore the world of coding and maths  <a href="https://www.bletchleypark.org.uk/visit-us">https://www.bletchleypark.org.uk/visit-us</a></p>	 <p>Visit Mechanical, Art &amp; Design museum Stratford-upon-Avon  <a href="http://themadmuseum.co.uk/">themadmuseum.co.uk/</a></p>	 <p>Science Museum  <a href="http://www.sciencemuseum.org.uk">www.sciencemuseum.org.uk</a></p>
 <p>London Maths Trail created by Chris Olley at Kings College London  <a href="http://www.themathszone.com/">www.themathszone.com/</a></p>	 <p>Bank of England Museum  <a href="http://www.bankofengland.co.uk">www.bankofengland.co.uk</a> › Home › About the Bank</p>	 <p>National Museum of Mathematics in New York if you ever happen to be there....</p>
 <p>Find out and attempt Fermat's Last Theorem.          What is the Last Theorem? - Simon Singh.</p>	 <p>Look up one of the many proofs of Pythagoras. This will help with proofs in your Pure course.  <a href="http://www.cut-theknot.org/pythagoras/">www.cut-theknot.org/pythagoras/</a></p>	 <p>Disprove the flat earthers by researching the Golden Gate Bridge and how the curvature of the earth changes its structure.</p>
 <p>Research Dr Igor Kntorovich – Problem solving, proving etc.</p>	 <p>Bridge crossing question          Activity: The Seven Bridges of Königsberg - Math is Fun.</p>	 <p>Look up the Hodge Theory and Electromagnetism.</p>
 <p>Ask maths department if you can assist with KS4 revision sessions. This will fully strengthen your understanding of core topics,</p>		

	Reading Task		Creative Task
	Research Task		Writing Task
	Watching Task		Student – Led Task
	Listening Task		Trip or Visit