


























Maths Super Curriculum Year 7

























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

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



Maths Super Curriculum Year 8


















	 Reading Task	 Creative Task	
 Alex's Adventures in Numberland , by Alex Bellos - an exhilarating cocktail of history, reportage and mathematical proofs that will leave you awestruck	 Research Task  Watching Task  Listening Task	 Writing Task  Student – Lead Task  Map or Visit	 Explore some of the problems from the rich.maths site to develop your problems solving skills - Secondary Students NRICH
 Wild Maths – explore, imagine, experiment and create! – try and explore one of the games from the rich site: http://wild.maths.org/	 King's College London – visit KCL site and attempt one of the weekly challenge competitions – Weekly Maths Challenge Plus King's Maths School	 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.	
 Bletchley Park – visit Blechley Park and explore the world of coding and maths Bletchley Park Home	 Science Museum – Maths Gallery - visit newly open section of Science Museum involving various aspects of Maths maths-gallery-guide.pdf	 Brilliant Practical problem-solving online Brilliant Learn by doing	
 Listen to maths documentary podcast – Relatively Prime, by Samuel Hansen – http://relprime.com	 Listen to Travels in a Mathematical World podcast , by Peter Rowlett - featuring mathematicians talking about their work as well as features on maths history and maths news; http://www.travelsinamathematicalworld.co.uk/	 3Blue1brown Grant Sanderson's animated Maths YouTube Channel 3Blue1Brown - YouTube	
 Documentary : Top 10 equations that changed the world 1080p - https://www.youtube.com/watch?v=0K-t090uvL4	 BBC Universe Documentary The Great Math Mystery BBC Documentary 2015 – BBC Documentary The Math Mystery Mathematics in Nature and Universe Science Documentary	 Watch Movie based on mathematician Alan Turing's involvement in code breaking of Enigma – 'The Imagination Games' directed by Morten Tyldum.	










Maths Super Curriculum Year 9



 How not to be wrong: The Hidden Maths of Everyday Life 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.	 The Maths Behind the Magic , by Adam Boddison – exploring maths and magic.	 This is not a Maths Book , by Anna Weltman – fusion of maths and art/drawing – work through fun drawing challenges with a mathematical basis.
		







<p>Research Srinivasa Ramanujan and his influences on modern Mathematics.</p>	<p>Wild Maths – explore, imagine, experiment, create! – try and explore one of the games from the nrich site: http://wild.maths.org/</p>	<p>King’s College London – visit KCL site and attempt one of the weekly challenge competitions – https://www.kcl.ac.uk/mathsschool/Weekly-Maths-Challenge/Weeklymaths-challenge.aspx</p>
<p> Science Museum – Maths Gallery - visit newly open section of Science Museum involving various aspects of Maths. maths-gallery-guide.pdf</p>	<p> Bletchley Park – visit Blechley Park and explore the world of coding and maths. Bletchley Park Home</p>	<p> Listen to maths documentary podcast – Relatively Prime, by Samuel Hansen – http://relprime.com/</p>
<p> Listen to Travels in a Mathematical World podcast, by Peter Rowlett - featuring mathematicians talking about their work as well as features on maths history and maths news; http://www.travelsinamathematicalworld.co.uk/</p>	<p> Watch Movie based on Biography of John Forbes Nash Jr. – mathematical genius – ‘A Beautiful Mind’ directed by Ron Howard.</p>	<p> Tom Rocks Maths :The YouTube channel of Tom Crawford, Oxford University – Tom Rocks Maths - YouTube</p>
<p> Visit Bank of England museum and look at the role money has played within the economy Museum Bank of England</p>	<p> Read My Best Mathematical and Logic Puzzles by Martin Gardner</p>	<p> Attempt some TED-ed riddles on youtube: TED-ed Riddles - YouTube</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> Why do buses come in threes? The Hidden Mathematics of Everyday Life. Rob Eastaway and Jeremy Wyndham’s book will change the way you see the world!</p>	<p> What is Mathematics? An elementary approach to Ideas and Methods Richard Courant’s book offers an entertaining and accessible portrait of the mathematical world.</p>	<p> Listen to maths documentary podcast – Relatively Prime, by Samuel Hansen – http://relprime.com/</p>
<p> The infinite hotel paradox https://www.youtube.com/watch?v=Uj3_Kqkl9Zo&feature=youtu.be</p>	<p> Research the life of Alan Turing and his contribution to the development of Mathematics. This website provides a starting point.. https://nrich.maths.org/8050</p>	<p> Research Archimedes and contributions to the world of Mathematics.</p>










 Create a revision video suitable for Key Stage 3 students on a topic of your choice.	 Research the Fibonacci Sequence and how it occurs in nature. This could be a starting point. http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibnat.html	 Research the origins of PI and how to derive it. How many decimal places can you remember it to?
 The Four Colour Map Theorem https://youtu.be/NgbK43jB4rQ	 Develop your understanding of irrational numbers and prove that root 2 is irrational. https://www.khanacademy.org/math/algebra/rational-and-irrationalnumbers/proofs-concerningirrational-numbers/v/proof-thatsquare-root-of-2-is-irrational	 Man and the rise of Civilisation episode 1 – ‘The Beginnings of Numbers’ - https://www.youtube.com/watch?v=DVngFvtZwAU
 Bletchley Park – visit Blechley Park and explore the world of coding and maths. https://www.bletchleypark.org.uk/visit-us		




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











Maths Super Curriculum Year 11



 Magical Mathematics: The mathematical ideas that animate great magic tricks Persi Diaconis and Ron Graham’s book reveals the secrets of fun-to-perform card tricks.	 The equation that couldn’t be solved: How Mathematical Genius Discovered the Language of Symmetry Mario Livio explores the laws of symmetry, elegantly unifying scientific and artistic principles.	 Listen to maths documentary podcast – Relatively Prime , by Samuel Hansen – http://relprime.com/
 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. https://nrich.maths.org/901
 Enjoying solving quadratic equations? Test yourself on these	 Discover GAME THEORY by watching this video.	 Can you prove the quadratic formula? Find out how by watching
















MEGA QUADRATIC EQUATIONS. http://nrich.maths.org/11009	https://www.youtube.com/watch?v=MHShtjGgSY&feature=youtu.be	this video. https://www.khanacademy.org/math/algebra/quadratics/solvingquadratics-using-the-quadraticformula/v/proof-of-quadraticformula
 Can you take the square root of a negative number? Learn about IMAGINARY numbers here... https://www.khanacademy.org/math/algebra2/introduction-to-complex-numbers-algebra2?t=practice	 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. http://www.dr frostmaths.com/homework/browse.php?mode=ukmt

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



Maths Super Curriculum KS5



	 Reading Task	 Creative Task	
 The Imitation Game http://www.imdb.com/title/tt254970/	 Watching Task https://www.youtube.com/channel/UCe83jLdZ3PuqVWAHe6B3U2A	 Writing Task 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 The Story of 1 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 http://www.famousmathematicians.com/	 Research Alan Turning.	
 Research Carl Friedrich Gauss.	 Research the creation of Algebra.	 Research the works of John Forbes Nash Jr.	



Maths Super Curriculum KS5















	Reading Task	Creative Task
<p> Visit Bletchley Park and explore the world of coding and maths https://www.bletchleypark.org.uk/visit-us</p>	<p> Visit the Mad Museum themadmuseum.co.uk/</p>	<p> Science Museum www.sciencemuseum.org.uk</p>
<p> London Maths Trail created by Chris Olley at Kings College London www.themathszone.com/</p>	<p> Bank of England Museum www.bankofengland.co.uk › 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. www.cut-theknot.org/pythagoras/</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>		



Maths Super Curriculum KS5



<p> Read 17 Equations that changed the World by Ian Stewart</p>	<p> Read The Man Who Knew Infinity by Robert Kanigel</p>	<p> The Mathematics of Ciphers by S.C Coutinho</p>
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<p>Seventeen Equations that Changed the World by Ian Stewart (<i>ISBN: 9781846685316</i>)</p>	<p>The Man Who Knew Infinity: Life of the Genius Ramanujan New Ed by Robert Kanigel (<i>ISBN: 9780349104522</i>)</p>	<p>The Mathematics of Ciphers: Number Theory and RSA Cryptography by S.C. Coutinho (<i>ISBN:9781568810 829</i>)</p>
<p> Concepts of Modern Mathematics by Ian Stewart. Concepts of Modern Mathematics by Ian Stewart (<i>ISBN: 8601400596593</i>)</p>	<p> A History of Mathematics by Carl B Bouger. A History of Mathematics, Third Edition 3rd Revised edition by Carl B. Boyer, Uta C. Merzbach (<i>ISBN: 8601405590862</i>)</p>	<p> Principal Mathematics.</p>
<p> Paradoxes in Mathematics by Stanley J Farlow. Paradoxes in Mathematics (Dover Books on Mathematics) [Stanley J. Farlow] on ... There's more than one way to define a paradox. (<i>ISBN-10: 048649716X; ISBN-13: 978-0486497167</i>)</p>	<p> Read some of The Math Book by Clifford A Pickover. TheMath Book: From Pythagoras to the 57th Dimension, 250 Milestones in the History of Mathematics(Paperback) ... (<i>ISBN: 9781402788291</i>)</p>	<p> Things to make and do in the fourth dimension by Matt Parker. Things to Make and Do in the Fourth Dimension by Matt Parker (<i>ISBN: 9780141975863</i>)</p>
<p> Mathematics by Jan Gullberg. Mathematics: From the Birth of Numbers by Jan Gullberg, Peter Hilton (<i>ISBN: 9780393040029</i>)</p>	<p> Watch the Documentary on the Storm of 1987 Britains biggest storm October 1987</p>	<p> The map of Mathematics – Domain of Science. https://www.youtube.com/watch?v=OmJ-4B-mS-Y</p>
<p> How does maths guide our ships at sea? https://www.youtube.com/watch?v=AGCUm_jWtt4</p>	<p> 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.</p>	<p> 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.</p>

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