

SUPER-CURRICULAR OPPORTUNITIES							
Subject	Key Stage Three	KS3 Book/Broadcast /Competition	Pre GCSE/GCSE	GCSE Book/Broadcast /Competition	Post-16	Post-16 Book/Broadcast/Competition	Websites / Virtual Tours
Maths	<ul style="list-style-type: none"> • Visit the Science Museum • Visit Bletchley Park • Playing collectable card games eg Net Runner, magic the gathering. • Playing strategy games e.g. poker, bridge, chess, go, Risk, Monopoly, dominos, Scrabble... <p>Puzzles</p> <ul style="list-style-type: none"> • Draw a 3 x 3 grid and colour the squares either red, white or blue so that each red touches a white square, each white touches a blue square and each blue touches a red square. 	<p>Books:</p> <ul style="list-style-type: none"> • 'Why do Buses Come in Threes?' by Rob Eastaway • 'How Long is a Piece of String?' By Rob Eastaway • 'The Curious Incident of the Dog in the Night time' By Mark Haddon. • Books by Martin Gardener • Books by Raymond Smullyan • Snowflake, Seashell, Star - a colouring book by Alex Bellos • Watch 'The Story of Maths' Presented by Marcus Du Sautoy BBC Documentary The Story Of Maths 1 The Language Of The Universe YouTube via torchbrowser.com - YouTube 	<ul style="list-style-type: none"> • Watch Ted Talks lectures by people such as Marcus du Sautoy Marcus du Sautoy Search Results TED • Playing strategy games e.g. poker, bridge, chess, go, Risk, Monopoly, dominos, Scrabble... • If August 5th falls on a Tuesday, on which day will Christmas Day fall? • Can you find out how many ways you can arrange the letters in a four-letter word. Is there a formula? How would you do this for a five-letter word? 	<ul style="list-style-type: none"> • Freakonomics and Superfreakonomics by Steven D. Levitt, Stephen J. Dubner • Alex's Adventures in Numberland by Alex Bellos • Outliers by Malcolm Gladwell <p>Films</p> <ul style="list-style-type: none"> • 'Apollo 13.' • 'Hidden Figures.' • Moneyball – film starring Brad Pitt about using statistical analysis to make a great baseball team • The Imitation Game – film about Alan Turing • X+Y – film about a socially awkward teenager who excels at the Maths Challenge! <p>Books:</p>	<ul style="list-style-type: none"> • Paper trading online Demo Trading Account: Try IG's Paper Trading Simulator IG UK • Listen to Radio 4 More or Less BBC Radio 4 - More or Less • Research and make notes on the concepts of the post-16 books listed <p>STEP support programme by the University of Cambridge to help students develop problem-solving skills and prepare for university entrance exams: https://maths.org/step/</p> <p>STEP questions with solutions: https://undergroundmathematics.org/bro</p>	<p>Books:</p> <ul style="list-style-type: none"> What the Numbers Say: A Field Guide to Mastering Our Numerical World (Derrick Niederman and David Boyum) The Cartoon Guide to Statistics (Larry Gonick & Woolcott Smith) The Mathematical Experience by Philip J. Davis and Reuben Hersh. Euler: The Master of Us ALL by William Dunham Mathematics: A Very Short Introduction by Timothy Gowers A Concise Introduction to Pure Mathematics (Martin Liebeck) 	<p>Challenge yourself: Sudouku Play Free Sudoku online - solve web sudoku puzzles</p> <p>Plus Magazine – Online general interest articles relating to practical uses of mathematics https://plus.maths.org/content/</p> <p>Nrich - a selection of rich tasks for developing subject content knowledge as well as mathematical thinking and problem-solving skills. https://nrich.maths.org/9088</p> <p>Virtual Tours: The History of Science Museum Displays and Exhibitions History</p>

	<ul style="list-style-type: none"> • Complete the star challenge Stars (maths.org) • Watch and discuss TV programmes such as: - Dara O Briain: School of Hard Sums - Deal or No Deal – mathematically, are the contestants making the right decisions? <p>Year 9 Master classes at University of Kent</p>	<ul style="list-style-type: none"> • The Code - a 3 part documentary by Marcus du Sauto BBC Two - The Code - Episode guide 		<p>'Alex's Adventures in Numberland' by Alex Bello</p> <p>'The Cabinet of Mathematical Curiosities' by Ian Stewart</p>	<p>wse?typeOption=ReviewQuestion&reviewQuestionType=6</p> <p>Ebook: Advanced Problems in Mathematics by Stephen Siklos https://www.openbookpublishers.com/reorder/1050#page/1/mode/2u</p>	<p>Year 12 Master classes at University of Kent</p> <p>Competitions: International Mathematical Olympiad The British Mathematical Olympiad (ukmt.org.uk)</p> <p>University of Waterloo Mathematics Competitions (CEMC)</p>	<p>of Science Museum (ox.ac.uk)</p> <p>The Science Museum Virtual tour of the Science Museum Science Museum</p>
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