



Maths

The Super Curriculum

The Super Curriculum

Ever found a topic in class that made you think, Wow, I want to know more? That's where super curricular activities come in! These are all about going beyond what you learn in lessons—diving deeper into subjects that spark your curiosity. You might build on something your teacher introduced or even explore an entirely new idea that wasn't covered in class.

So, what counts as a super curricular activity? While extra reading is a great option, there's so much more you can do! Think **TED Talks**, **podcasts**, **museum trips**, **online courses**, **academic competitions**, and even **expert lectures**—all fantastic ways to expand your knowledge.
















Why bother? Well, apart from making learning way more exciting, these activities help you develop a real passion for your favorite subjects. Plus, they look super impressive to universities and future employers! They'll want to hear about what you've explored, what you've learned, and how you took the initiative to go beyond the basics.









This booklet is **packed with ideas** recommended by your teachers to help you get started. It's not a complete list—far from it!—so feel free to share any cool opportunities you find. That way, we can keep growing this collection of amazing learning experiences together!

Ready to dive in?

Super Curriculum – Year 7
















Subject: Mathematics









SC1		SC3		SC5	
	Alex's Adventures in Numberland – Alex Bellos. A fascinating journey through mathematical concepts, history, and puzzles, exploring how numbers shape our world and daily lives.		The Simpsons and Their Mathematical Secrets – Simon Singh Uncovers hidden mathematical references in <i>The Simpsons</i> , revealing the show's surprising connections to prime numbers, geometry, and probability.		Wild Maths – explore, imagine, experiment, create! – try and explore one of the games from the rich site: https://wild.maths.org/
	King's College London Maths School – visit KCLMS and attempt one of the weekly challenge competitions. https://www.kingsmathsschool.com/weekly-maths-challenge		Research Pythagoras and the maths he explored. Find out what his contributions to maths and philosophy were.		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 Winton Gallery (Maths Gallery) of the Science Museum which involves various aspects of maths. https://www.sciencemuseum.org.uk/see-and-do/mathematics-winton-gallery		Bletchley Park – Home of codebreaking & Alan Turing https://bletchleypark.org.uk
	Watch the three-part documentary by Prof Hannah Fry – Magic Numbers. https://www.youtube.com/watch?v=LEzA72N5GZU		Listen to the “More or Less” podcast on BBC iplayer or BBC Sounds. https://www.bbc.co.uk/programmes/p02nrss1/episodes/downloads		A Brief History of Mathematics Professor of Mathematics Marcus du Sautoy reveals the personalities behind the calculations and argues that mathematics is the driving force behind modern science. https://www.bbc.co.uk/programmes/b00srz5b/episodes/downloads
	Adding and subtracting fractions. Online tutor on adding and subtracting fractions. https://www.youtube.com/watch?v=kZzoVCmUyKq&list=PLmWMBbk5o0KXULJH2FgaEA2H-em2ACnt		Watch the documentary: The Story of 1 – history of numbers presented by Terry Jones, directed by Nick Murphy. https://www.youtube.com/watch?v=0qg1UplwCAQ		“Where do Mathematical Symbols come from?” Online lecture professor of Geometry, Prof Sarah Hart. https://www.youtube.com/watch?v=Edewyp87W-Q&list=PLU3TaPgchJtRk0sqM6jqVDIFDxj3swvxq&index=7

	Reading task		Writing task
	Listening task		Watching task
	Research task		Trip or visit
	Creative task		Student led task

Super Curriculum – Year 8
















Subject: Mathematics









SC1		SC3		SC5	
	Math Girls – Hiroshi Yuki A blend of fiction and mathematics, following a student's journey into advanced mathematical concepts through conversations with brilliant classmates.		The Colossal Book of Short Puzzles and Problems , by Martin Gardner. A collection of short and inventive problems by popular mathematics and science writers.		Explore some of the problems from the rich maths site to develop your problem solving skills. https://nrich.maths.org/student/secondary
	Wild Maths – explore, imagine, experiment, create! – try and explore one of the games from the rich site: https://wild.maths.org/		King's College London Maths School – visit KCLMS and attempt one of the weekly challenge competitions. https://www.kingsmathschool.com/weekly-maths-challenge		Design a house or a school, producing full scale drawing, calculating area and showing all the relevant measurements. Complete the task by creating a paper or cardboard model
	Bletchley Park – Home of codebreaking & Alan Turing https://bletchleypark.org.uk		Science Museum – Maths Gallery Winton Gallery (Maths Gallery) of the Science Museum which involves various aspects of maths. https://www.sciencemuseum.org.uk/see-and-do/mathematics-winton-gallery		Circle Song Use it to memorise area and circumference formulae. https://www.youtube.com/watch?v=9WGO7dAxjD8
	Listen to the “More or Less” podcast on BBC iPlayer or BBC Sounds. https://www.bbc.co.uk/programmes/p02nrss1/episodes/downloads		Listen to The Secrets of Mathematics podcasts. A series of talks and lectures from Oxford Mathematicians exploring the power and beauty of their subject. https://podcasts.ox.ac.uk/series/secrets-mathematics		Watch the film “The Man Who Knew Infinity” Chronicles the life of Indian mathematician Srinivasa Ramanujan and his profound contributions to number theory despite many hardships.
	Documentary: Top 10 equations that changed the world. https://www.youtube.com/watch?v=0K-t090uvL4		TED Talk: Eddie Woo – Mathematics is the Sense You Never Knew You Had https://www.youtube.com/watch?v=PXwStduNw14		Watch “The Imitation Game” The film follows Alan Turing's life, his role in breaking the Enigma code during WWII, and his lasting impact on computer science.

	Reading task		Writing task
	Listening task		Watching task
	Research task		Trip or visit
	Creative task		Student led task

Super Curriculum – Year 9

















Subject: Mathematics









SC1		SC3		SC5	
	How not to be wrong: The Hidden Maths of Everyday Life Explores how mathematical thinking influences everyday decisions, politics, and science, revealing hidden patterns and logical fallacies in life.		The Code Book – Simon Singh A thrilling history of cryptography, from ancient ciphers to modern encryption, revealing the impact of codebreaking on global events.		This is not a Maths Book , by Anna Weltman. A fusion of maths and art/drawing – work through fun drawing challenges with a mathematical basis
	Research Srinivasa Ramanujan and his influences on modern Mathematics.		Wild Maths – explore, imagine, experiment, create! – try and explore one of the games from the rich site: https://wild.maths.org/		King's College London Maths School – visit KCLMS and attempt one of the weekly challenge competitions. https://www.kingsmathschool.com/weekly-maths-challenge
	Science Museum – Maths Gallery (Winton Gallery) which involves various aspects of maths. https://www.sciencemuseum.org.uk/see-and-do/mathematics-winton-gallery		Bletchley Park – Home of WWII codebreaking & Alan Turing. https://bletchleypark.org.uk/		Listen to the maths podcasts on Relatively Prime , by Samuel Hansen https://relprime.com/
	Listen to the “More or Less” podcast on BBC iplayer or BBC Sounds. https://www.bbc.co.uk/programmes/p02nrss1/episodes/downloads		Watch the film based on the Biography of John Forbes Nash Jr. – mathematical genius – ‘A Beautiful Mind’ directed by Ron Howard		Watch “What is a number?” https://www.youtube.com/watch?v=NHZt8eBKcRA
	The Great Math Mystery Explores whether mathematics is a human invention or a fundamental part of the universe, revealing its role in nature and technology. https://www.youtube.com/watch?v=8h5uZT41RY		The Story of Maths A BBC documentary tracing the history of mathematics, from ancient civilisations to modern-day discoveries, highlighting key figures and breakthroughs. https://www.youtube.com/watch?v=0qg1UplwCAQ&t=16s		Engage with Project Euler – Coding & mathematical problem challenges. https://projecteuler.net/

	Reading task		Writing task
	Listening task		Watching task
	Research task		Trip or visit
	Creative task		Student led task

Super Curriculum – Year 10
















Subject: Mathematics








SC1		SC3		SC5	
	Fermat's Last Theorem – Simon Singh Chronicles the 350-year mystery of Fermat's Last Theorem, culminating in Andrew Wiles' brilliant proof and its impact on mathematics.		Gödel, Escher, Bach – Douglas Hofstadter A deep exploration of logic, art, and music, connecting Gödel's incompleteness theorem, Escher's art, and Bach's compositions in an intellectual masterpiece.		Listen to the maths podcasts on Relatively Prime , by Samuel Hansen https://relprime.com/
	The infinite hotel paradox https://www.youtube.com/watch?v=Uj3_KqkI9Zo		Research the life of Alan Turing and his contribution to the development of Mathematics. This website provides a starting point. https://nrich.maths.org/articles/what-did-turing-do-us		Research Archimedes and his contributions to the world of Mathematics.
	Create a revision video suitable for Key Stage 3 students on a topic of your choice		Create a written revision guide or revision resource for Key Stage 3 students on a topic of your choice		Research the origins of PI and how to derive it. How many decimal places can you remember it to?
	Maths in Music – How frequencies and ratios create harmony https://www.youtube.com/watch?v=Y7TesKMSE74		Develop your understanding of irrational numbers and prove that root 2 is irrational https://www.youtube.com/watch?v=cLP7INqs3JM	 	Research the Fibonacci Sequence and how it occurs in nature. This could be a starting point. https://r-knott.surrey.ac.uk/Fibonacci/fib.html
	Bletchley Park – Home of WWII codebreaking & Alan Turing. https://bletchleypark.org.uk/		Watch the film “Hidden Figures” The film tells the inspiring true story of three African-American women mathematicians who played vital roles in NASA's space program.		Design a poster on Chaos Theory for your maths classroom

	Reading task		Writing task
	Listening task		Watching task
	Research task		Trip or visit
	Creative task		Student led task

Super Curriculum – Year 11

Subject: Mathematics

SC1		SC3		SC5	
	The Mathematics of the Gods and the algorithms of men – Paolo Zellini A brief cultural and intellectual history of mathematics.		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 the maths podcasts on Relatively Prime , by Samuel Hansen https://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.		Sign yourself up to Brilliant.org – Interactive problem-solving courses. https://brilliant.org/
	Create a revision video suitable for a Year 10 student on a GCSE topic of your choice.		Create a written revision guide or revision resource for a Year 10 student on a topic of your choice.		Develop your understanding of series and surds by exploring and attempting this problem. https://nrich.maths.org/problems/root-problem
	Enjoying solving quadratic equations? Test yourself on these MEGA QUADRATIC EQUATIONS. https://nrich.maths.org/problems/mega-quadratic-equations		Discover Fractals : Beautiful mathematical patterns in nature by watching this video. https://www.youtube.com/watch?v=rGwwydEWLiI		Can you prove the quadratic formula? Find out how by watching this video. https://www.youtube.com/watch?v=r3SEkdtpobo
	Can you take the square root of a negative number? Learn about IMAGINARY numbers here: https://www.youtube.com/watch?v=s03qez-6JMA		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 https://ukmt.org.uk/competition-papers/jsf/jet-engine:free-past-papers/tax/challenge-type:76/#free-past-paper-anchor

	Reading task		Writing task
	Listening task		Watching task
	Research task		Trip or visit
	Creative task		Student led task