



ASHLYNS SCHOOL

Ashlyns School

The Challenge Curriculum

Maths



Reading task



Research task



Watching task



Student-led task



Listening task



Creative task









Writing task









Trip/visit task







Maths – Year 7

 <p style="text-align: center;">Reading</p>	<p>Read the book 'So you think you've got problems?' by Alex Bellos. Surprising and rewarding puzzles to sharpen your mind.</p> <p>Read the biography of Homer Hickman 'Rocket Boys'. Learn how the son of a coal miner designed the space shuttle for NASA.</p> <p>Read the book 'The Number Devil' by Hans Magnus Enzensberger. About a boy who hates maths!</p>
 <p style="text-align: center;">Research</p>	<p>Research Pythagoras and the maths he explored Find out about his contributions to modern Mathematics. Use this timeline to see how mathematicians “Stand on the Shoulders of Giants” Timeline</p> <p>Research the mathematics of magic. Many magic tricks are based on mathematics. What magic tricks can you find? Try them out on your friends!</p>
 <p style="text-align: center;">Watching</p>	<p>Watch the movie 'Hidden Figures', the story of the African-American Mathematicians of NASA who helped America win the Space Race.</p> <p>Watch the movie 'The Man Who Knew Infinity', starring Dev Patel. Enjoy the biography-based drama about the mathematician Srinivasa Ramanujan.</p> <p>Watch 'The Simpsons and Their Mathematical Secrets' The Simpsons</p>
 <p style="text-align: center;">Listening</p>	<p>Listen to 'The True Story of Being Mean' Mic Drop Maths</p> <p>A Brief History of Mathematics, a BBC Radio 4 podcast by Marcus du Sautoy. Listen to all 10 episodes. History of Maths</p>
 <p style="text-align: center;">Creative</p>	<p>Create tangrams using the online tool Tangrams You can also make the shapes out of paper. What other pictures can you make?</p> <p>Wild Maths – explore, imagine, experiment, create! Try and explore one of the games from the nrich site: Wild Maths</p> <p>Read '100 essential things you didn't know about Maths and the Arts', by John D Barrow. What can you create from the book?</p>
 <p style="text-align: center;">Trip/Visit</p>	<p>Visit the 'Oxford Maths Festival' Oxford Maths Festival</p> <p>Visit the 'Big Bang' Fair Big Bang Fair</p> <p>Visit Birmingham Botanical Gardens and complete the maths trail. Birmingham Botanical Gardens</p>



Maths – Year 8

 Reading	<p>Read 'Alex's Adventures in Numberland', by Alex Bellos. An exhilarating cocktail of history, reportage and mathematical proofs that will leave you awestruck.</p> <p>Read 'Humble Pi' – a comedy of maths errors, by Matt Parker. Real life stories about how maths goes wrong with real world consequences, by mathmagician Matt Parker.</p> <p>Read 'Math Curse' by Jon Scieszka. Did you ever wake up to one of those days where everything is a problem? You have 10 things to do, but only 30 minutes until your bus leaves. Is there enough time? You have 3 shirts and 2 pairs of pants. Can you make 1 good outfit? Then you start to wonder: Why does everything have to be such a problem?</p>
 Research	<p>Research the life and work of Alan Turing.</p> <p>Research the maths of Castles and Forts. Use the link to get started. Castles and Forts</p>
 Watching	<p>Watch the movie October Sky starring Jake Gyllenhaal.</p> <p>BBC Magic Numbers Mysterious World of Maths BBC documentary exploring the world of maths with Dr Hannah Fry. Magic Numbers</p> <p>Watch Numberphile – maths and movies (Animation at Pixar). Numberphile</p>
 Listening	<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. Travels-mathematical-world</p> <p>Listen to Simon Singh's 'Five Numbers' Five Numbers</p>
 Creative	<p>Visit Kings College London website and attempt the weekly challenge competitions. Weekly Maths Challenge</p> <p>Test yourself with games against the computer. Maths is Fun</p> <p>Create a polygon by Origami. Origami 1 Origami 2 Origami 3 Origami 4</p>
 Trip/Visit	<p>STEM Centre Stevenage Visit the Stem Discovery Centre in Stevenage Stem Discovery Centre</p> <p>'Science Museum Winton Gallery Visit the maths gallery in the Science Museum, London. Winton Gallery</p>

Maths – Year 9

 <p style="text-align: center; color: green; font-weight: bold;">Reading</p>	<p>Read 'How Not to Be Wrong. The Hidden Maths of Everyday Life', by Jordan Ellenberg. Discover how maths touches on everything we do, and a little mathematical knowledge reveals the hidden structures that lie beneath the world's messy and chaotic surface.</p> <p>The Simpsons and their mathematical secrets, by Simon Singh. See how a writing team of mathematicians include mathematics within this popular animation.</p> <p>The Life-changing Magic of Numbers, by Bobby Seagull. From magic shows to rap lyrics, from hobbies to outer space, from fitness to food – Bobby's infectious enthusiasm for numbers will change how you think about almost everything.</p>
 <p style="text-align: center; color: green; font-weight: bold;">Research</p>	<p>Research Famous Women Mathematicians. Here is a starting point: Famous Women Mathematicians</p> <p>Research the links between the Fibonacci Sequence, the Golden Ratio and Nature. This could be a starting point. Maths is Fun</p>
 <p style="text-align: center; color: green; font-weight: bold;">Watching</p>	<p>Watch the movie 'A Beautiful Mind', starring Russell Crowe, directed by Ron Howard (2001). A biographical drama based on the life of the American mathematician John Nash.</p> <p>Watch the movie 'The Imitation Game' starring Benedict Cumberbatch (2014). Historical drama based on the 1983 biography of Alan Turing.</p> <p>Research prime numbers by watching clips of numberphile Numberphile</p>
 <p style="text-align: center; color: green; font-weight: bold;">Listening</p>	<p>Listen to Simon Singh's 'Another Five Numbers' Another Five Numbers</p> <p>Listen to Marcus du Sautoy's 'Five Shapes' Five Shapes</p>
 <p style="text-align: center; color: green; font-weight: bold;">Creative</p>	<p>This is not a Maths Book, by Anna Weltman Maths and art are worlds apart, right? Well, once you look a little closer, you'll see that they have a lot in common!</p> <p>Help Alice in Fractaland. Alice</p> <p>Create Archimedean Solids using Origami. Origami</p>
 <p style="text-align: center; color: green; font-weight: bold;">Trip/Visit</p>	<p>Bletchley Park Visit Bletchley Park to explore the world of coding and maths. Bletchley Park</p> <p>Visit the Bank of England Museum. Bank of England</p>

Maths – Year 10

 Reading	<p>Read the 'Joy of Pi' by David Bratnor. The Joy of Pi is sure to foster a newfound affection and respect for the big number with the funny little symbol.</p> <p>Read 'The Man who knew Infinity'. A book about the life of the Genius Ramanujan.</p> <p>Read 'The Code Book' by Simon Singh. From Mary, Queen of Scots, trapped by her own code, to the Navajo Code Talkers who helped the Allies win World War II, to the incredible (and incredibly simple) logistical breakthrough that made Internet commerce secure, The Code Book tells the story of the most powerful intellectual weapon ever known: secrecy.</p>
 Research	<p>Learn about the countless applications maths has in everyday life. Mathigon</p> <p>Research the History of Pi. Somewhere to start: History of Pi</p>
 Watching	<p>Watch the film 'X+Y'. Here are some clips X+Y 1 X+Y 2</p> <p>Watch Hannah Fry on You Tube 'Should Computers Rule the World' Should Computers Rule the World</p> <p>Watch 'The Monty Hall Problem' Monty Hall Problem</p>
 Listening	<p>Listen to Simon Singh's 'A Further Five Numbers' A Further Five Numbers</p> <p>A Brief History of Mathematics, a BBC Radio 4 podcast by Marcus du Sautoy Listen to all 10 episodes. A Brief History of Maths</p>
 Creative	<p>Be creative to solve these puzzles and problems. Mathigon Puzzles</p> <p>How are the arts and maths linked? Arts and Maths</p> <p>Does Hollywood ruin books. Hollywood and Books</p>
 Trip/Visit	<p>Visit the Royal Observatory, Greenwich. Royal Observatory. (Virtual Planetarium show currently available)</p> <p>Attend a 'Christmas Lecture' at the Royal Institution Christmas Lectures. You can watch past series now.</p>