| Year<br>Group | SOL                              | Read   | Watch  | View  |
|---------------|----------------------------------|--|--|---|
| 7             | Sequences                        | Famous mathematical sequences: https://edublognss.wordpress.com/2013/04/16/fa mous-mathematical-sequences-and-series/  Seeing spots: https://www.cambridgemaths.org/blogs/seeing-spots/  | The magic of Fibonacci numbers   Arthur Benjamin (TED talk): https://www.youtube.com/watch?v=SjSHVDfXHQ4  Fibonacci sequences in nature: https://www.youtube.com/watch?v=nt2OIMAJj6o   | Visit Bletchley Park - discover the amazing stories of the World War Two Codebreakers https://bletchleypark.org.uk/plan-a-visit/  |
| 7             | Place value                      | Averages in real life: https://www.statology.org/mean-median-mode- real-life-examples/   | A brief history of numerical systems - Alessandra King (Ted-Ed) <a href="https://www.youtube.com/watch?v=cZH0YnFpjwU">https://www.youtube.com/watch?v=cZH0YnFpjwU</a>  | What does a billion pounds actually look like? https://www.bbc.co.uk/news/av/uk-50576648 Worldometer: https://www.worldometers.info/  |
| 7             | Fraction & Percentage of Amounts | How many colours are in your candy? <a href="https://www.cda.co.uk/blog/how-many-colours-are-in-your-candy/">https://www.cda.co.uk/blog/how-many-colours-are-in-your-candy/</a>  | Heather's Weather Whys: <a href="https://www.youtube.com/watch?v=CSuagyfPTk0&amp;t=1s">https://www.youtube.com/watch?v=CSuagyfPTk0&amp;t=1s</a>  | The 1% club – ITV X: https://www.itv.com/watch/the- 1percent-club/10a0593   |
| 7             | Geometric<br>Reasoning           | Maths in the real world: https://codinghero.ai/super-interesting-examples- of-maths-in-real-world/   | Why are there 360 degrees in a circle? <a href="https://www.youtube.com/watch?v=BN58gPoW7DI">https://www.youtube.com/watch?v=BN58gPoW7DI</a> Polygons: <a href="https://www.youtube.com/watch?v=wo9YMBe6F1M&amp;t=151s">https://www.youtube.com/watch?v=wo9YMBe6F1M&amp;t=151s</a> | Visit the Science Museum - Mathematics  – The Winton Gallery:  https://www.sciencemuseum.org.uk/see-and-do/mathematics-winton-gallery  Alternative to visiting in person:  https://www.youtube.com/watch?v=XjL  NwSs5isY&t=106s |
| 7             | Primes & Proof                   | The importance of prime numbers in the real world: <a href="https://interestingengineering.com/science/the-incredible-importance-of-prime-numbers-in-daily-life">https://interestingengineering.com/science/the-incredible-importance-of-prime-numbers-in-daily-life</a> | 5040 and other primes (highly composite numbers):<br>https://www.youtube.com/watch?v=2JM2oImb9Qg   | Film: The man who knew infinity (2015) - Follows the story of mathematician Ramanujan.  |
| 8             | Ratio and scale                  | How to bake $\pi$ by Eugenia Cheng   | Pi – Numberphile<br>https://www.youtube.com/watch?v=yJ-HwrOplps  | The plastic ratio https://www.numberphile.com/videos/t he-plastic-ratio   |
| 8             | Representing data                | Spurious Correlations by Tyler Vigen   | Statistics on Match Day<br>https://www.youtube.com/watch?v=GyN-qpVfOWA   | Sport data sets<br>https://data.world/datasets/sports   |

| 8 | Brackets, equations and inequalities | The indisputable existence of Santa Claus by Hannah Fry and Thomas Oléron Evans   | The relationship equation <a href="https://www.youtube.com/watch?v=BkOlw7vAZCQ&amp;pp=ygUUbnVtYmVycGhpbGUgZXF1YXRpb24%3D">https://www.youtube.com/watch?v=BkOlw7vAZCQ&amp;pp=ygUUbnVtYmVycGhpbGUgZXF1YXRpb24%3D</a>                                     | A brief History of time – Stephen<br>Hawking documentary   |
|---|--------------------------------------|---|---|--|
| 8 | Sequences                            | Blockhead – The life of Fibonacci by Joseph<br>D'Agnese   | The magic of Fibonacci numbers – Ted Talk <a href="https://www.youtube.com/watch?v=SjSHVDfXHQ4&amp;pp=ygUZc2VxdWVuY2VzIG1hdGhzIHJIYWwgbGlmZQ%3D%3D">https://www.youtube.com/watch?v=SjSHVDfXHQ4&amp;pp=ygUZc2VxdWVuY2VzIG1hdGhzIHJIYWwgbGlmZQ%3D%3D</a> | The golden ratio in nature <a href="https://www.mathnasium.com/blog/14-interesting-examples-of-the-golden-ratio-in-nature#:~:text=For%20example%2C%20the%20measurement%20from,%2C%20ants%2C%20and%20honey%20bees.">https://www.mathnasium.com/blog/14-interesting-examples-of-the-golden-ratio-in-nature#:~:text=For%20example%2C%20the%20measurement%20from,%2C%20ants%2C%20and%20honey%20bees.</a> |
| 8 | Symmetry and reflection              | Seeing Symmetry by Loreen Leedy   | The Mathematics of symmetry <a href="https://www.youtube.com/watch?v=YBhqFs6VkxY">https://www.youtube.com/watch?v=YBhqFs6VkxY</a>   | Symmetry in nature https://listverse.com/2013/04/21/10- beautiful-examples-of-symmetry-in- nature/   |
| 8 | Data handling                        | How Charts work by Alan Smith   | Statistics on Match Day https://www.youtube.com/watch?v=GyN-qpVfOWA   | Sport data sets<br>https://data.world/datasets/sports  |
| 9 | Three Dimensional<br>Shapes (3D)     | 3D shapes in the movies  How Pixar Improved 3D Animation With Every One of Its Movies (Part 2) (insider.com)  3D Shapes in real life 3D Shapes in Real Life   Applications of Solid Shapes (cuemath.com)  Geometry in Architecture Geometry in Architecture - archisoup   Architecture Guides & Resources | The math behind the movies  Pixar: The math behind the movies - Tony DeRose - YouTube   | Properties of 3D shapes  Recognise and describe 3D shapes -  Maths - Learning with BBC Bitesize - BBC  Bitesize  3D shapes in historical buildings  Geometry, 3D Shapes in Historical  Buildings - YouTube   |
| 9 | Maths and Money                      | How to win at Monopoly Here's how to win at Monopoly, according to math experts   (ted.com)  Why learning about money is important? The Importance of Teaching Money Skills - TeachHUB  How to help kids understand and read their bank statements   GoHenry  | Student Money Podcast Student Money Podcast - No More Beans - Save the Student  The Surprising Way to Teach Your Kids to be Smart with Money   Ellen Rogin   TEDxSevenMileBeach - YouTube   | How banks depend on confidence of their depositors  "Fidelity Fiduciary Bank" - YouTube  Savings Goals for Kids   What are Savings goals?   Financial education for kids    Teaching money kids - YouTube  |
| 9 | Pythagoras                           | Pythagoras' theorem in real life - Pythagoras' theorem - Intermediate & Higher tier - WJEC - GCSE Maths Numeracy (WJEC) Revision - BBC Bitesize   | Pythagorean Theorem in Real Life Applications - Bing video  Pythagoras Podcast  | Educational Video Pythagoras - Video - National 4 Maths - BBC Bitesize   |

|            |                         | Real Life Uses of the Pythagorean Theorem                                      | BBC Radio 4 - More or Less: Behind the Stats, A                                 | Math Antics - The Pythagorean Theorem                           |
|------------|-------------------------|--|---|---|
|            |                         | Sciencing  | groundbreaking new proof for Pythagoras' Theorem?                               | - YouTube   |
|            |                         |  |   |   |
|            |                         | BBC - History - Historic Figures: Pythagoras (c.580<br>BC - c.500 BC)          |   |   |
|            |                         | Using probability in real life   | Probability in real life   Probability Examples Bing video                      | Introduction to probability                                     |
|            |                         | 10 Examples of Using Probability in Real Life -                                |   | What is probability? - BBC Bitesize                             |
|            |                         | Statology  | Probability Podcast   |   |
| 9          | Probability             | Probability Tree Diagrams (mathsisfun.com)                                     | BBC Radio 4 - In Our Time, Probability  | The last banana: A thought experiment in probability -   TED-Ed |
|            |                         |  |   | <u>Calculating probabilities - KS3 Maths -</u><br>BBC Bitesize  |
|            |                         | The Maths made us: how numbers created   |   | Hidden Figures  |
|            |                         | civilisation by Michael Brooks   | All the numbers   |   |
| KS4        | Number                  |  | https://www.youtube.com/watch?v=5Tkle60y2GI                                     | Imitation game  |
|            |                         | The music of the primes – Marcus Du Sautoy                                     |   |   |
|            |                         | Seventeen equations that changed the world – Ian                               | Odd equations https://www.youtube.com/watch?v=8l-                               | Proof   |
|            |                         | Stewart  | <u>La9HEUIU</u>   |   |
| KS4        | Algebra                 | Farment a last the array Circum Circum   |   | X+Y   |
|            |                         | Fermet's last theorem – Simon Singh  |   | A Beautiful Mind  |
|            |                         | Euclid's Window: The story of Geometry from                                    | A problem with rectangles   | The stunning Geometry of the Great                              |
|            |                         | Parallel lines to Hyperspace by Leonard Mlodinow                               | https://www.youtube.com/watch?v=VZ25tZ9z6uI                                     | Pyramid   |
| W.C.4      |                         |  |   | https://www.youtube.com/watch?v=xE8                             |
| KS4        | Geometry                | Excursions in Geometry by C.Stamley Ogilvy                                     | https://www.theguardian.com/us-news/2023/mar/24/new-orleans-pythagoras-theorem- | <u>oJArKGlo</u>   |
|            |                         |  | trigonometry-prove  | Taken 2 – Maps and loci in real life                            |
|            |                         |  |   | https://youtu.be/HdWpg6rq85o                                    |
|            |                         | The Monty Hall Problem: Beyond closed doors                                    | Derren Brown – The system   | 21  |
|            |                         |  | Probability -   |   |
| KS4        | Probability             | Hexaflexagons, Probability Paradoxes, and the                                  | https://www.imdb.com/title/tt5593890/?ref =tt mv clo                            |   |
|            |                         | Tower of Hanoi by Martin Gardner   | <u>se</u>   |   |
| KS4        | Statistics              | Moneyball: The Art of winning an unfair game by                                | The numbers game – how data is changing football                                | Moneyball   |
|            |                         | Michael Lewis  | https://www.youtube.com/watch?v=ILcXH 4rwr4                                     |   |
| KS5        |                         |  |   |   |
| KS5        |                         |  |   |   |
| KS4<br>KS5 | Probability  Statistics | Hexaflexagons, Probability Paradoxes, and the Tower of Hanoi by Martin Gardner | Probability - https://www.imdb.com/title/tt5593890/?ref =tt mv close            | 21  |

| KS5                             |  |  |  |  |
|---------------------------------|--|--|--|--|
| Read   Watch   View – [Subject] |  |  |  |  |