The Walton Baccalaureate

You must complete a project (listed at the end of the document) and 2 other tasks.

Mathematics

Criteria for Baccalaureate recommendation in Y7

1. Resilience - do additional work on a topic that you have performed badly on

2. Take a photograph of something mathematically interesting and explain why it is

3. Research a mathematician

4. Choose a project from the Y7 list

5. Submit a solution to nrich.maths.org

Criteria for Baccalaureate recommendation in Y8

1. Resilience - do additional work on a topic that you have performed badly on

2. Create a presentation on an area of mathematics (can be in a group)

3. Find something at home that uses mathematics and explain how

4. Choose a project from the Y8 list

5. Submit a solution to nrich.maths.org

Criteria for Baccalaureate recommendation in Y9 and 10

1. Resilience - do additional work on a topic that you have performed badly on

2. Create a revision guide for a topic for use by younger students

3. Collect and present data on an area of Stafford

4. Choose a project from the Y9 list

5. Submit a solution to nrich.maths.org

**PROJECTS FOR MATHEMATICS**

**YEAR 7**

* Pick only **one** project to complete
* **Do not** copy large chunks of text from the internet – we will be able to tell
* How you present your work is up to you

**The projects:**

* 1. Pascal’s triangle
	2. A light year
	3. Fibonacci numbers
	4. Triangular numbers
	5. Amicable and automorphic numbers
	6. Interesting number patterns
	7. The golden ratio/rectangle
	8. The ellipse
	9. Factorials
	10. Benjamin Franklin’s magic square and others
	11. Perfect numbers
	12. Goldbach’s conjecture
	13. Navigation Instruments
	14. The Soma cube
	15. The contributions of women/men to the development of mathematics eg

 Thales, Leonhard Euler, Hypatia, John Napier, Ada Lovelace or any other

* 1. Lucas numbers
	2. Ahmes papyrus
	3. The Greek alphabet
	4. The supercube or tesseract
	5. ‘Brain games’ – puzzles and problems

**PROJECTS FOR MATHEMATICS**

**YEAR 8**

* + Pick only **one** project to complete
	+ **Do not** copy large chunks of text from the internet – we will be able to tell
	+ How you present your work is up to you

**The projects:**

* 1. The history of ∞ or 0
	2. The radian (or circular measure)
	3. Tide charts
	4. The 24 hour clock
	5. Homophones
	6. A mathematical crossword (8x8)
	7. Latin squares
	8. Schlegel diagrams
	9. The geometry of logos
	10. Geometry of the chambered nautilus
	11. Large numbers – googol, googolplex
	12. Euler’s formula
	13. Networks
	14. Spirograph patterns
	15. Coins, currencies and exchange rates
	16. Mathematics in advertising
	17. The cycloid
	18. Tangrams
	19. Perspective (look up Albrecht Durer)
	20. Snowflake geometry

**PROJECTS FOR MATHEMATICS**

**YEAR 9 and 10**

1. Pick only **one** project to complete
2. **Do not** copy large chunks of text from the internet – we will be able to tell
3. How you present your work is up to you

**The projects:**

* 1. Polynomials
	2. Matrices
	3. Optical Illusions
	4. Origami models
	5. Mathematics of chance and probability (Lotto, dice etc)
	6. The census and its uses
	7. Orienteering basics – map reading, symbols, compass
	8. Simple spirolaterals
	9. Polar coordinates
	10. Modular arithmetic
	11. Curves of pursuit
	12. Escher’s work
	13. Topology
	14. Geometry on a billiard table
	15. Mathematics in medicine
	16. Mathematics in music or art
	17. Mathematics in PE/sport
	18. Create a poem or song with a mathematical theme
	19. Codes – sign language, semaphore, Braille, Morse code
	20. The slide rule, abacus, soroban