**Mathematics**

🡪 **Core + Stats + Mech** 1/6th each, thus **⅔ rds** is Pure

 3 exams 🡪 1½hrs per exam

 No coursework at all!

**Pure**

* Core is Pure Mathematics 🡪 the heart of the subject
* Surds & Algebra
* More Algebra
* Quadratics
* Trigonometry

+ lots & lots of more, new and exciting stuff

🡪 the tools to help you do Application + other AS subjects

**Mechanics**

* Looking at modelling real life situations eg Fairground rides, vehicles in motion & sledging!
* Forces
* Friction
* Moments and Ladders
* Vectors
* Projectiles

🡪 some of this stuff you **will** use in Physics

**Statistics**

* Looking at and analysing data
* Averages & Measures of Spread, from various types of data in different situations
* Histograms
* Probability
* Correlation (the link between data) PMCC
* Modelling real life data 🡪 The Normal Distribution
* The Binomial Distribution
* You will need to buy a calculator to follow this course.

🡪 some of this stuff you **will** use in Biology, Geography, Psychology

***What will it be like:***

* Very similar to GCSE
* Yes it is hard, but very rewarding and an extremely good A level to have 🡪 part of a unique & exclusive group of students
* Yes – you do need to have good algebra skills
* A very pacey course 🡪 need to be organised

**Futher Mathematics**

🡪 **Further Pure+(2 from) Mechanics+Decision+Stats**

**½** is application, thus **½**is Pure

* All Further maths students study more Pure Maths
* All Further maths students study two of the applications (chosen by the school)
* Statistics – regression, residuals, discrete random variables, Binomial approximation to the Poisson Distribution, Continuous Random Variables, Spearmans Rank Correlation coefficient, PMCC, Hypothesis Tests
* Mechanics-Momentum, Impulse, Collisions, Elasticity, Centre of Mass, Frameworks, Springs, Work and Energy
* Decision – Critical Path Analysis, Network Flows,Algorithms, Graphs, Linear Programming, Transportation problems, Allocation, Dynamic Programming , Game Theory

🡪 Further Maths should only be taken by the very best maths students

Each module 🡪 1½ exam

No coursework at all!

* Further pure – more difficult algebra
* Graphs of rational functions
* Parabolas, ellipses, hyperbola
* Complex numbers

+ lots & lots of more, new and exciting stuff

🡪 the tools to help you do Application + other A level subjects

**Advantages of Further Mathematics** 🡪an additional choice.

* Maths (Pure+Mechs+Stats)
* F Maths (More Pure + Stats + Discrete)
* Very well respected because it’s difficult
* Very good results at LHS

🡪 Good to do if you want to go on to do Maths at University or if you love Mathematics

***What will it be like:***

* Just like A level but some aspects are even harder!
* Study for a total of 12 modules: 4 Pure, 2 Mechanics, 2 Statistics, 2 Decision, 2 Further Pure
* A Further Maths lessons each day (5 Stats + 5 Decision lessons over the 2-weeks)
* An excellent choice for students considering studying maths at university
* Should be considered only by the very brightest Mathematics students