



# Oxford Spire Academy

## Department of Mathematics

The curriculum for mathematics from Years 7 to 11 (and beyond) has pedagogy at the heart of it. It is based on the creation of leading mathematics educational researchers and experienced teachers.

The focus is about developing both deep knowledge and understanding of mathematics to enable students to have the confidence and fluency to use mathematical reasoning and solve problems. This not only develops their academic capability and exam success but also enhances transferable life skills such as logic, reasoning and proof.

Homework is set in order to further develop and enrich students thinking, practice skills they have learnt and to revise for assessment. Mathematics at Oxford Spire contributes significantly to literacy through the development of vocabulary and comprehension.

KS3/4

We want students to understand the mathematics they learn and develop a love for learning mathematics. Naturally we want them to achieve the highest possible GCSE results that will also provide them with greater choices and opportunities for their futures.

The learning structure for our mathematics curriculum is based around some key principles:

- Fluency
- Mathematical reasoning
- Multiplicative reasoning
- Problem solving
- Progression
- CPA approach – Concrete – Pictorial – Abstract
- Relevance
- Modelling
- Reflection
- Linking

We aim to cater for students of all abilities through stretch, challenge and support. Our resources are structured to deliver engaging and accessible content across differentiated tiers supported by worked examples, key points, literacy and strategy hints.

### Exam board and Course code

Edexcel GCSE (9-1) Mathematics (Higher and Foundation) – 1Ma1

Exam components (papers) and weighting:

[Click here for specification \(online version only\)](#)

- Paper 1 & paper 2: Non Calculator
- Paper 3: Calculator allowed

Each paper is worth 33.3% of the total mark and tests all of the areas below:

Tier	Topic area	Weighting
Foundation	Number	22 - 28%
	Algebra	17 - 23%
	Ratio, Proportion and Rates of change	22 - 28%
	Geometry and Measures	12 - 18%
	Statistics & Probability	12 - 18%
Higher	Number	12 - 18%
	Algebra	27 - 33%
	Ratio, Proportion and Rates of change	17 - 23%
	Geometry and Measures	17 - 23%
	Statistics & Probability	12 - 18%



**Baby/toddler nerds is an incredibly fun maths club. We do all sorts of maths (and a little bit of science) projects together such as the time we attempted to make a level three menger sponge and sometimes we play maths board games. Best of all it is just a really nice group of us able to hang out and feel like there are people out there who like maths as well. What is also fun is that we are always pushing and teaching each other new things.” - Emily Snelson**

KS5

Oxford Spires provides Sixth Form students with a range of mathematical study options including:

- A-level Further Mathematics
- A-Level Mathematics
- Core Maths
- GCSE Mathematics

Our A-level students develop a deep understanding of more advanced concepts with an emphasis upon proof, logic, reasoning and the application of their knowledge enabling them to progress to degree courses, such as Engineering, Economics, Physics and Computer Science. These students also have the option to participate in a preparatory course for the mathematical tests used by elite universities for admission to some courses. Core maths students experience how mathematics applies to personal finance and gain an understanding of statistics to support its use in other subjects. Whilst our GCSE resit programme caters for those who need to improve their grade to progress into higher education or training.

