



Maths, Economics and Computing Learning Area

An overview of the Maths, Business, Economics and Computing Learning Area

I am Mr Miah, the Head of Learning Area for Maths, Business, Economics and Computing. We have 13 staff in our Learning Area with 12 classrooms. Mossbourne is equipped with multiple IT suites and all students have access to school desktop machines to support their study in all subjects.

The ethos of the Maths department

All of the Maths teachers here share a deep passion for Mathematics, and our main goal is to ensure that students leave understanding the importance of studying and understanding Mathematics. Mathematics is beautiful and there are so many unusual and interesting applications, it's vital that students are exposed to these and learn to enjoy Mathematics. We want them to be intrigued and excited by complex topics such as the golden ratio or Fibonacci, but we also want them to feel a sense of achievement from solving a really hard problem, or working through a complex proof just like they would if they won a football match, for example.

The curriculum in KS3

We want our students to leave with a GCSE result better than the National average, so have spent a lot of time creating a curriculum that reflects that. There is a big focus on practice time and opportunity for students to apply what they have learnt in varied and complex situations, but the aim of year 7 and 8 isn't for students to 'get a good GCSE' the aim is to create competent Mathematicians that feel confident tackle any mathematical problem they might encounter, in any context. We achieve this by ensuring students have complete mathematical fluency in what we have identified as key concepts which ultimately allows our students to get excellent results.

What do Maths lessons look like at Mossbourne

Every lesson begins with a Do Now to get students thinking Mathematically and talking about their thought process. Students are encouraged to consistently use the correct Mathematical terminology in their lessons and become increasingly competent Mathematical speakers. They then sit down to begin a starter that involves questions that test different areas of the curriculum based on the idea of interleaved testing. Teachers will then spend time introducing the lesson, modelling an example live with the class followed by a period of time for students to practice this new skill or concept. At the end of the week students are given a 'learning check' which tests what they have learnt that week and informs teachers weekly interventions.

Challenges we take part in

To support students in becoming the incredible Mathematicians that they will be when they leave Mossbourne, we run a number of challenges both in school and out of it (in which we perform exceptionally well). We enter the UKMT every year and our Intermediate group team reached the finals of this challenge last year. We also began taking part in the Count on us challenge, this is open to all KS3 students and see students practicing to take part in challenges in Algebra/coding and numeracy. The Finals, which we attended last year, took part in Sadiq Khan's Chambers at City hall. We have also run other interesting trips such as a trip to Bletchley park and a Maths trail at the British Museum.



Computing

At KS3 Computing is introduced through our Bourne Scholar program allowing our students to understand how to program and apply computational thinking concepts. Computer Science is an option choice in year 9. Our Computer Science GCSE course is engaging and practical, promoting creativity and problem solving. It encourages our students to develop their understanding and application of the core concepts in Computer science such as computer architecture, networking and the laws. Students also analyse problems in computational terms and create effective solutions by designing, writing, testing and evaluating High level programs. Our students learn about the impact Technology has on our daily lives and how learning to program is essential in the technological world.

Outcomes

Outcomes are excellent year-on-year. In 2019, the value-added for Computing was 1.56, in 2020 it was 1.64.

Assessment

Students are assessed half termly. They also complete many multiple-choice quizzes and unit tests throughout the term

Homework

Homework is set on average once per week. The homework is varied every week to keep our students engaged. Homework consists of video notes, online quizzes, worksheets, programming tasks and presentations.

Business Curriculum

This course is perfect for students looking to gain a GCSE in Business. Throughout the course our students develop an understanding of business concepts, terminology and the impacts that businesses have on society.

Pupils begin their study of Business in Years 9 with a curriculum that pushes them to think deeply about Business concepts. We provide two options, GCSE Business and BTEC Enterprise to give our students a choice to suit their needs.

Assessment

We assess students regularly in Business. This gives the teacher a clear picture of the area's students have, and have not, understood from lessons. We report on student progress, including the current working grade, to parents three times a year.

Homework

Homework forms an integral part of students' practice in Business. The homework we set gives students the opportunity to practice what they have learnt in class and further develop and embed those skills. Students will receive a piece of Business homework every 4-6 hours of teaching.

Extra-Curricular Activities

There will be a range of extracurricular activities in Business including the Peter Jones Foundation Insight into Entrepreneurship workshop.



Economics Curriculum

Economics is offered as an optional GCSE subject; which students choose to take as a three-year course from Year 9 to 11.

It is a popular subject as we teach it with two aims in mind: to achieve the best possible GCSE grades and to help students understand what is happening in the global economy. The curriculum is split between microeconomics – the study of how individual markets work – and macroeconomics – the study of national and global economies. By the end of the course students can answer exam questions competently, converse on the state of the world economy, and offer opinions on whether the Government's current economic policies are likely to work out.

Homework

This is set every two weeks and will sometimes be analytical exploration of supply and demand, and sometimes will be a more discursive journey into the (mal)functioning of the London property market.

Assessment

Mini tests are done all throughout the term with a final summative assessment at the end of every term. In class, a lot of work is discussion based which allows a lot of formative assessment to take place.