



Curriculum Intent

Mathematics and Statistics
Mr A. Machin

Curriculum Vision and Aims

The curriculum at Q3 Academy Great Barr is underpinned by the values that we hold as an institution. The curriculum will challenge, support and inspire all students in order to achieve appropriate and individualised progression beyond the Academy, preparing them for their future lives. We understand the importance of engaging parents/carers with their children's learning and therefore opportunities for home/Academy interaction will be integrated to build relationships, particularly at Key Stage 3.

The curriculum will be well-sequenced and challenging to ensure that all students, regardless of any previous or current disadvantage, are given every opportunity to be successful, following our Trust ethos: life to the full in pursuit of what is good, right, and true.

The curriculum should support students to:

- ✓ Achieve excellence, making excellent progress from their starting points
- ✓ Explore a range of subject areas and apply these in challenging situations
- ✓ Accept challenge and develop strategies to be successful in challenge
- ✓ Develop a life-long love of literacy and reading
- ✓ Use cross-curricular literacy, numeracy and computing skills fluently
- ✓ Understand their contribution to the wider World and how the World around them is changing
- ✓ Understand how to maintain their own, and others', physical and mental wellbeing
- ✓ Be creative and develop their own ideas and thinking
- ✓ Understand their responsibility within the Fundamental British Values and how to be good citizens, particularly demonstrating mutual respect and tolerance for others
- ✓ Understand and value history, heritage and traditions of communities
- ✓ Have access to appropriate careers and progression advice to ensure that they continue to be successful after they leave Q3 Academy Great Barr
- ✓ Be Ready, Respectful and Responsible for themselves and others around them.

Department Vision

The aim of our curriculum is to create fluent and independent problem solvers who are resilient in adversity whilst also promoting a love of Mathematics.

Subject Intent		
Key Stage 3 <ol style="list-style-type: none"> 1. To produce fluent mathematicians from a young age 2. To provide students with a solid foundation to build upon as they progress through their academy years 3. To prepare students for Key Stage 4 with the skills to reason and solve problems logically 	Key Stage 4 <ol style="list-style-type: none"> 1. For students to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that students develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately 2. To develop students who can reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language 3. To develop students so they can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. 	Key Stage 5 <ol style="list-style-type: none"> 1. For students to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that students develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately 2. To develop students who can reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language 3. To develop students so they can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
Curriculum Specification		
Key Stage 3 National Curriculum	Academic GCSE: Edexcel Mathematics Edexcel Statistics	Academic A Levels: Edexcel Mathematics Edexcel Further Mathematics

Wider Curriculum Contribution	
Our approach to supporting learning	Our approach and opportunities to stretch and challenge students
<ul style="list-style-type: none"> We give students short assessments at the start of new units to identify gaps in students' knowledge that can then allow us to tailor our scheme to their needs. We provide opportunities for students to continue their learning outside of the Academy through technologies such as Hegarty Maths and Century Tech. We follow the Academy-wide teaching and learning protocols such as modelling with I do, we do, you do to ensure that the students are able to develop a good understanding of the work. We support students with Numicon intervention We have used additional adults such as LSAs, LSPs and Maths Coaches to support and challenge students both within and out of lessons. 	<ul style="list-style-type: none"> We provide opportunities for students to take part in competitions such as UKMT and Maths Olympiads. Our scheme is designed to have a clear path where either more support or more challenge can be provided. This can be through reasoning and problem-solving questions and/or can be for challenging students by going on to more advanced topics.
Our contribution to Careers Education, Information and Guidance	Our contribution to Literacy and Reading Development
<ul style="list-style-type: none"> Discuss with students' different paths and prospective that maths can open up. We have taken students on trips and to maths events where future careers are shared. 	<ul style="list-style-type: none"> We promote literacy through our verbal delivery, correct written notation and organisation. We teach students to use correctly spelt vocabulary and grammar, particularly in worded problems that involve reasoning and problem solving, and mark where identified in line with the Academy policy. We pre-teach key vocabulary and tier 3 words and we model their use in lessons.
Our contribution to Environment and Sustainability	Our contribution to Safeguarding and Prevent
<ul style="list-style-type: none"> Where appropriate we can use opportunities in real life to discuss issues in everyday life e.g. the daily rigour as a starter which links maths to current affairs and problem solving and reasoning questions that can be linked to real-life examples 	<p>All Maths staff are trained in safeguarding and child protection, and have clear understanding of Academy policies and statutory guidance. Any concerns are reported to a Designated Safeguarding Lead.</p>
Our contribution to Social, Moral, Spiritual and Cultural development	Our contribution to Character Education (Citizenship)
<ul style="list-style-type: none"> Develop students' understanding of their ability and attainment and how that compares to other students and therefore able to respect those students. Being able to reflect on their work and experiences and grow, showing resilience in times of challenge and humility when their understanding is good 	<ul style="list-style-type: none"> Develop their reasoning and problem-solving skills, showing resilience in the face of adversity As per the academy policy we plan to use individual, paired and group work. Where pair and group work is used we teach students how to do these effectively, discussing issues like roles within the group, communication skills, respect and empathy.
Our Contribution to Digital Literacy Development	Our contribution to Numeracy Development
<ul style="list-style-type: none"> We provide opportunities for students to continue their learning outside of the Academy through technologies such as Hegarty Maths and Century Tech. 	<ul style="list-style-type: none"> Develop all aspects of student's numeracy through the curriculum.