

Maths Curriculum Intent



The purpose of studying Maths is to give all students the opportunity to engage critically with the world around them. All of our students are entitled to the level of mathematical understanding essential to navigating the modern world. Studying Maths empowers students to move forward in life with strong numerical knowledge and critical thinking, allowing them to make reasoned, well-informed decisions.

The intent of our curriculum is to provide a secure understanding of mathematical concepts, and to equip students with effortless fluency in a broad range of mathematical skills. Our curriculum promotes retention of knowledge and depth of learning and avoids accelerated curriculum and surface level understanding.

We aim for students to be numerate and feel confident in applying their mathematical knowledge, from basic principles of mathematics to complex topics that combine several areas of students' knowledge into a single question.

What Students Should Know and Be Able To Do

Entitled To Powerful Knowledge

All pupils in Maths have the opportunity to engage with knowledge which extensively explores number, algebra, geometry, proportion and statistics.

Taking the National Curriculum as a starting point, our curriculum is carefully constructed to be ambitious and meet the needs of all pupils, allowing them to develop their knowledge and skills with increasing fluency and independence.

We ensure that every student accesses all strands of Maths and has opportunities to build their skills and understanding in each of these areas throughout Key Stage 3, before moving to separate pathways in Key Stage 4. For example:

Topic	Year 7	Year 8	Year 9	Year 10	Year 11	Key Stage 5
Algebra	<ul style="list-style-type: none">Collecting like termsExpand & factorise single bracketsSolve 1 step equationsChange the subject of a formula	<ul style="list-style-type: none">Solve 2 (or more) step equationsChange the subject of a formula	<ul style="list-style-type: none">Expand and simplify double bracketsFactorise quadratic equationsSolve quadratics by factorising	<ul style="list-style-type: none">Solve simultaneous equationsSolve quadratic equations using the quadratic formulaComplete the square	<ul style="list-style-type: none">Solve non-linear simultaneous equations	<ul style="list-style-type: none">Division of polynomialsParametric equations

By doing this we make sure that no student is limited in accessing their chosen path when they leave Key Stage 4, and that students possess the knowledge and confidence necessary to successfully navigate the modern world. We ensure that all students who wish to electively continue to study mathematics are able to do so in Key Stage 5. Students will utilise their core foundation of fundamental skills, exploring these in greater depth whilst encountering new areas of maths such as calculus.

Knowledge is Diverse, Inclusive and Representative

Maths is universal, and we believe that our Maths curriculum should take all pupils beyond their immediate experience and provide them with an elegant and logical way of seeing the world. We want students to truly understand the Maths we teach, not just the procedural knowledge we teach in lessons, but also what this means in a wider context and how they can utilise these skills outside of school. For example, developing a students' understanding of statistics and statistical representations allows them to be critical of information presented to them in the media and to fully participate in society, making informed decisions and not being deceived by misleading statistics.

We believe that a secure understanding of Maths is an essential starting point for all young people, and our curriculum aims to prepare our students for further mathematical study, for study in other subjects, and for life outside of school.

Where our resources include names and places, we ensure that these are selected to be inclusive so that all students feel seen in our curriculum. Ultimately we ensure our curriculum is representative so that students can see themselves reflected in it through robust links to real world contexts and inclusive and diverse examples. For example, when teaching percentages we ensure that we include real interest rates from banks and highlight the risks of pay day loans.

Education With Character

Mathematics is a common language which all pupils can use to reason, analyse and problem solve. We want our students to be successful members of society, and to support this we ensure that we provide opportunities to develop characteristics that embody our Regis 10 values.

Our curriculum is ambitious and encourages our students to develop and demonstrate resilience and independence when work becomes challenging. Mathematics is especially influential in building and developing resilience within students, which will support students in life when they leave school. Our ambitious and challenging curriculum provides opportunities for students to learn how to adapt and thrive when faced with difficult problems, learning that becoming stuck or making a mistake is a powerful learning opportunity.

We want our students to develop logical reasoning and critical thinking, and so problem solving is viewed not as an extension activity, but as an entitlement.

How Students Acquire This Knowledge

"The ultimate aim of curriculum must be to a structured path, a movement through knowledge in time, where travel leads to acquisition and understanding, to seeing the world in a new way."

Coherent Whole

The order that topics are taught in Maths is important, and our curriculum is coherently planned and sequenced so that powerful knowledge builds through hierarchical progression, so students are always equipped with the prior knowledge needed to access new content.

Acquire and Apply

Our curriculum builds in a way that ensures foundation knowledge, skills and concepts are secure before moving on. Mathematical concepts are taught in depth, and continually revisited through careful interleaving of content into future teaching topics. This focus on retention of knowledge and fluency is at the core of our Maths curriculum.

We start each lesson with a Do Now activity consisting of a starter grid of typically 6 mixed topic questions. These topics are carefully planned and thoughtfully selected to:

- 1) Retrieve prior knowledge that will be fundamental in accessing upcoming topics
- 2) Retrieve knowledge taught previously to interrupt the forgetting curve
- 3) Increase fluency and application of key, high frequency skills.

Over the course of study, our curriculum is designed to support pupils to remember the content they have been taught and to integrate and connect new knowledge into larger ideas.

Adapt and Improve

Adapt what is taught: Our curriculum is designed to be delivered in its entirety and where it is applicable and appropriate our curriculum is adapted to reflect our local context.

Adapt when it is taught: Our curriculum is carefully sequenced so that knowledge builds in a clear and coherent manner, however teachers have autonomy over how to maximise the impact this has for their class. For example, if a teacher has assessed that students do not have the necessary prior knowledge to successfully access a topic, they will judge it necessary to prioritise revisiting this prior knowledge before moving onto new content.

Adapt how it is taught: Although the core content and fundamental skills of the curriculum are delivered to all students, teachers will adapt lessons to best meet the needs of their own class. For example, teachers will check pupil's understanding rigorously and systematically, identifying misconceptions and providing clear feedback. In doing so they respond and adapt their teaching as necessary for the class.

Improve: Curriculum development is an ongoing process. We work collaboratively within our department, and with our academy trust to ensure our curriculum continuously improves. Assessment is used within our curriculum, not just to check understanding and inform teachers of student gaps, but also to allow leaders to reflect on the impact our curriculum is having and assess whether it can be adapted in a way to better support students. Maths teachers are provided with opportunities throughout the year to access internal and external subject specific CPD, and the knowledge gained from this is shared within the department and used to continuously improve and enhance our curriculum.