

Curriculum Intent – Mathematics

Ethos

At Christ's College, we believe that Mathematics is a highly inter-connected subject which provides a universal language for understanding and making sense of our world. We believe that Mathematics helps us to tackle real life problems, to communicate information and develop skills which are essential in other areas of the curriculum. We believe that Mathematics encourages students to ask questions, develop resilience, and ignite a curiosity for the world around them. The intent of our Mathematics curriculum is to provide students with the knowledge, discipline and skills to enable them to become mathematically literate for life and to appreciate the beauty and power of Mathematics. We want all students to master the subject as it is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.

Curriculum

As we identify the key knowledge students should master in Mathematics, we think carefully about how we want students to think as mathematicians. In line with the National Curriculum objectives, our intent is that all pupils:

- develop confidence and fluency, including through varied and frequent practice, in the fundamentals of mathematics so that they develop conceptual understanding, and the ability to recall and apply knowledge rapidly and accurately to a variety of problems and unfamiliar contexts, as well as real-life scenarios.
- ask questions and reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical vocabulary.
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions with a 'can do' approach.

In order to achieve this, our all-through curriculum ensures pupils obtain three types of knowledge:

- Declarative knowledge - we develop declarative knowledge by teaching the mathematical facts, concepts and rules
- Procedural knowledge - we develop procedural knowledge by ensuring pupils know how to perform the steps in a process
- Conditional knowledge – we develop conditional knowledge by providing children with the ability to know when to use a procedure, skill or strategy.

The Mathematics curriculum is sequenced around the following key concepts:

- Number and Place Value (including calculation, fractions, decimals and percentages)
- Algebra
- Ratio and Proportion
- Geometry and Measures
- Statistics and Probability

Our all-through curriculum is:

- **Knowledge rich** with clearly-defined, coherent progression which strengthens schema to enable all students to secure ambitious curriculum goals
 - Small steps approach to curriculum progression and mastery using Master the Curriculum in Primary and White Rose Maths in Secondary
 - Winning With Numbers (EYFS to Y4 and Y5-6 intervention) emphasises fluency in number with varied practice and revisiting previous knowledge
 - Coherent progression in line with National Curriculum Expectations
- **Enabling** as all students have access to the whole curriculum and students master fundamentals in mathematics
 - Emphasis on mathematical fluency through Winning with Numbers
 - 'I Do, We Do, You Do' approach to help enable all students to master what they need to learn
 - Teaching for conceptual understanding e.g. concrete, pictorial, abstract approach
 - Timely interventions e.g. pre-teaching and same day intervention. As a school, we invest in targeted therapies and interventions to secure and develop knowledge and teach gaps using PiXL. Following forensic diagnostics, teachers and Learning Support Assistants access suitable therapies for whole class and small group teaching to ensure that all children reach their full potential.
- **Responsive** as assessment identifies security of learning and students are supported to achieve our curriculum goals
 - Pre-topic assessments used to identify gaps in learning from previous year groups and inform planning and teaching
 - Post-topic assessments used to identify gaps, inform teaching and timely interventions
 - Regular use of mini whiteboards for diagnostic identification of misconceptions
 - Regular retrieval practice to check prior learning and build long-term memory

Community

We want to take our students beyond their own experience, offering opportunities for creativity and enabling them to understand their identity in Sunderland and beyond. We do this through enrichment opportunities such as whole school Number Days and participating in national competitions to celebrate best work and extraordinary effort and allowing students to engage in meaningful maths. We encourage student to see the value of Mathematics in other subjects and this also raises their aspirations around the world of work and how Mathematics underpins so many different career paths. We do this through links to STEM careers including university visits and career-focused visits from professionals.

Character

Our curriculum is intertwined with our desire to develop students' character through Christ College's Core virtues of Love, Wisdom, Fairness, Self-Control, Courage, Humility, and Integrity. It is not enough to know and understand how to calculate and apply mathematical rules; we believe that wisdom, fairness and self-control provide students with the character necessary to use mathematical knowledge and skills for good and not for evil. Furthermore, Mathematics provides students the opportunity to develop resilience, confidence and independence, so that they contribute positively to the life of the school, their local community and the wider environment.