MUNTHAM HOUSE SCHOOL

MATHS

POLICY

Maths Policy

Overview

The mathematics curriculum is designed to provide an ambitious, inclusive, and coherent framework that equips pupils with the essential knowledge, skills, and understanding required for adult life. It places a strong emphasis on developing confidence and competence in numeracy, alongside fostering problem-solving, reasoning, and critical thinking skills. As a department, we believe that mathematics is both a functional life skill and a subject that enables pupils to better understand and engage with the world around them.

The curriculum is structured to support all learners, regardless of starting point, through a personalised and inclusive approach. Teaching is adapted to meet individual needs, including those identified in Education, Health and Care Plans, and follows a "stage not age" philosophy in our primary setting to ensure that learning is appropriately matched to each pupil's level of development. This approach enables pupils to build secure foundations while also providing opportunities for challenge and extension where appropriate.

Mathematical learning is delivered through a carefully sequenced and progressive structure, often using a spiral approach in which key concepts are revisited and developed over time. This ensures that pupils are able to consolidate prior knowledge, make connections between topics, and embed learning into their long-term memory. Teaching focuses on clear modelling, the accurate use of mathematical language, and the development of reasoning and justification skills, while assessment—both formative and summative—is used effectively to identify gaps, inform teaching, and support progress.

A key strength of the curriculum is its emphasis on real-world application. Pupils are encouraged to apply their mathematical knowledge to practical situations such as money management, timekeeping, and interpreting timetables, as well as through enterprise and work-related experiences. Mathematics is also embedded across the wider curriculum, supporting learning in subjects such as science, humanities, food technology, and computing. This cross-curricular approach helps pupils to recognise the relevance of mathematics beyond the classroom and understand its value in a range of contexts.

Throughout their school journey, pupils are supported to work towards appropriate qualifications, including GCSE Mathematics or Functional Skills, ensuring that all leave with a recognised accreditation. Post-16 provision builds upon earlier learning by offering both academic and vocational pathways, allowing students to continue developing their mathematical skills in ways that are meaningful to their future aspirations. There is a strong focus on independence, employability, and preparation for further education, training, or work.

In addition to academic outcomes, the curriculum plays a significant role in supporting pupils' personal development. It promotes resilience, independence, and confidence, while also encouraging curiosity and a positive attitude towards learning. Through exposure to real-life contexts and career-related learning, pupils develop an understanding of the long-term benefits of mathematics and its role in everyday life.

Overall, the impact of the mathematics curriculum is that pupils develop secure mathematical skills, achieve appropriate qualifications, and are well prepared for adulthood. They leave as confident, independent learners who are able to apply their knowledge in practical situations and participate actively in society.

Intent

The overarching intent of the school's mathematics curriculum is to foster a genuine enthusiasm for the subject and to help pupils develop confidence, fluency and a deep

appreciation of mathematics as a universal language. The curriculum is designed to equip pupils with powerful mathematical tools that enable precise communication, logical reasoning and effective problem-solving, both in academic contexts and in wider life. It also aims to remove barriers to future social mobility by ensuring all pupils acquire the numeracy skills needed to enter adulthood and employment without disadvantage. In addition, the school is committed to working with mainstream and national SEND partners to continually share and refine best practice in teaching and learning.

In Key Stage 2, the curriculum focuses on securing firm foundations in mathematical knowledge, vocabulary and arithmetic fluency. Pupils are supported to understand and accurately use key mathematical terminology so that essential concepts can be embedded into long-term memory. Daily mathematics teaching reinforces the high priority of the subject while enabling pupils to recall number facts efficiently. Students learn and develop their mathematical and arithmetic fluency during Primary ages, consisting of developing knowledge and understanding, exploring the subject, and working closely alongside the National Curriculum. Pupils have the opportunity to undergo SATs at the end of Year 6, as a formative summary of what the student is able to retrieve and this data can be used and applied in gap analysis where necessary.

In Key Stage 3, pupils consolidate and extend the knowledge gained in primary school, with misconceptions identified and addressed to secure future learning. They continue to build fluency through rapid recall of essential skills and build on these to apply their knowledge in other contexts. Throughout KS3, pupils also increasingly use calculators to support their work and engage with mathematics in practical, real-life and STEM-related contexts, whilst also readying them for their exams in Key Stage 4.

At GCSE, the curriculum emphasises fluency, independence and the ability to select and apply appropriate mathematical techniques to solve complex problems. Pupils deepen their understanding of the four elements, consisting of number, algebra, shape and measure, proportions, graphs, data and probability algebra. Their knowledge becomes more sophisticated as they work with a range of concepts, helping pupils connect mathematical ideas across topics and with subjects such as physics.

The Functional Skills curriculum focuses on equipping pupils with the mathematical confidence and competence required for everyday life and work. Pupils develop a positive attitude toward mathematics by using it in meaningful, practical contexts. They practice applying number skills with and without a calculator, explore patterns and relationships with topics covered and combine it with problem-solving and question analysis. Functional Skills also supports pupils in visualisation, representation and making comparisons, both in exam and real-life contexts. The Functional Skills pathway emphasises the transfer of prior learning from KS2 and KS3 into real-world applications, strengthening pupils' inference and problem-solving abilities.

Implementation

Across the school, mathematics is delivered both as a discrete subject and as a discipline embedded throughout the wider curriculum so that pupils understand its place in the real world and appreciate the practical value of developing mathematical understanding. Teachers draw on a broad range of teaching styles—including discussion, practical work, games, investigations, problem-solving and consolidation—to ensure that learning is accessible and meaningful for every pupil. Mathematics is developed through mental strategies, practical activity, written calculation and the use of mathematical tools, with all pupils supported through carefully planned differentiation and flexible ability groupings in the upper secondary school. This approach ensures access to an age-appropriate curriculum while allowing pupils to progress as their confidence and skills grow. Staff also cultivate a classroom ethos where

mistakes are explored openly, using questioning and modelling to show that alternative strategies and misconceptions are part of learning. A range of resources such as White Rose Maths, Renaissance, and Pearson's Maths Progress/KS4 and Seneca, which is used for Maths, Science and Computing for online homework or as a means to extend or revise learning. This content is used to support the curriculum and is selected according to pupil need through a “stage not age” model, imposing differentiation across the school.

In Key Stage 2, curriculum implementation is driven by long-term plans based on the 2014 National Curriculum, designed with a repetitive and sequential structure to secure understanding before pupils move on to new content. Medium-term planning is regularly reviewed through baselines, end-of-unit assessments and teacher observations to ensure sequencing reflects pupils’ emerging needs. Daily lessons include clear learning intentions, success criteria and explicit vocabulary instruction, supported by ongoing questioning to identify and correct misconceptions quickly. A Concrete–Pictorial–Abstract (CPA) approach underpins teaching to ensure that pupils gain secure conceptual understanding, with manipulatives used routinely to strengthen the transition from concrete to abstract thinking. Fluency is prioritised first, followed by reasoning and problem-solving tasks that deepen understanding. Pupils experience mathematics through real-world contexts—such as money handling or enterprise activities—and daily maths sessions reinforce the subject’s high priority. Differentiated tasks, targeted intervention, structured starters and dynamic LSA support ensure that all pupils can access learning at an appropriate level.

At Key Stage 3, the implementation is again based on the National Curriculum and schemes of work built securely on prior knowledge. Daily lessons continue to include clear learning intentions, questioning used as a discussion tool, instruction tool and also to identify misconceptions. Real-life mathematical experiences—including analysing timetables and handling money—help pupils understand application and prepare for progression to GCSE or Functional Skills pathways. Additional support, intervention and 1:1 provision and Maths Academy are offered where needed. Each session includes structured reasoning tasks and exposure to exam-style questions to develop confidence with multi-step problems and to prepare pupils for KS4 assessment expectations. Manipulatives remain in use for pupils who benefit from the concrete-to-conceptual transition, and pupils are encouraged to maintain high standards of presentation and pride in their work.

For pupils following the Functional Skills route, KS4 implementation continues to follow a logically sequenced plan that builds on earlier learning and prepares pupils for the mathematical demands of adulthood. Schemes of learning are responsive to assessment and designed to embed knowledge through connections across prior content. Real-world mathematical tasks form a central part of implementation, including work with money, timetables and other practical numeracy demands. Lessons maintain a structure of fluency, followed by reasoning and problem-solving. Functional Skills outcomes focus on ensuring pupils can use mathematics confidently in everyday contexts—such as budgeting, interpreting numerical information and handling measures.

For pupils following the GCSE pathway, curriculum mapping is organised to ensure content is sequenced logically so pupils gain a secure understanding before moving on. Medium-term planning is ambitious and explicitly builds on KS3 foundations, establishing connections that support retention in long-term memory. Daily lessons include clear intentions, success criteria and detailed vocabulary teaching, with teachers using targeted questioning to assess understanding and address misconceptions quickly. Fluency remains prioritised before pupils progress to more complex reasoning and problem-solving tasks, and GCSE implementation also makes use of Maths working walls and celebration spaces to support learning. Real-world mathematical contexts continue to feature alongside increasingly formal GCSE-style tasks to prepare pupils for examination requirements.

Curriculum

Curriculum planning across the school follows the map laid out by White Rose Maths, and is split into long-, medium-, and short-term planning, as follows:

Long-Term Planning:
Intent: As a whole school overview, long-term planning sets out the intended coverage of key topics and skills across the six half terms of each school year. It is appropriate that the same topics are taught in each year group, with a rolling increase in the development of concepts, skills and level of application. Use of White Rose Maths is one of several schemes of work which is used to inform Muntham House School's long-term planning across both Primary and Secondary phases.

Mid-Term Planning:
Implementation: Mid-term planning sets out each learning topic and breaks it down into quarter-termly chunks of learning. It informs teaching and learning in greater detail without the specificity of lesson-by-lesson plans. It is used as a working document and provides a guide for what should be taught in each time period. As with every curriculum subject across the school, coverage of the teaching and learning set out in mid-term planning is guided by the speed at which our students learn, the teaching of 'missing foundation knowledge', and the developmental stage of each student.

Short Term Planning
Short-term planning sets out the objectives to be covered in each of the mid-term plans, and allows for daily lesson planning and the bespoke adjustments needed to differentiate for each student on a 'stage not age' basis. It enables teachers and support staff to implement bespoke learning for each student, taking account of their mental state and wellbeing when they enter the classroom. Measurement against objectives achieved is one method of gauging the impact of teaching and learning.

Impact

We seek to ensure that every student leaves Muntham House School with a formal maths qualification, whether this be a GCSE or a Functional Skills, and has developed the ability to incorporate maths into adult living by being financially independent, accessing transport and managing time effectively.

The school's whole-school approach to implementing mathematics ensures that pupils experience the subject as a connected, meaningful discipline rather than one confined to discrete lessons. By embedding mathematical thinking across a range of subjects and real-life contexts, pupils develop both confidence and fluency alongside deeper reasoning and problem-solving skills. This consistent exposure, combined with a carefully sequenced and aspirational curriculum, enables pupils to build a secure conceptual understanding and recognise their own potential within the subject. As a result, those with an aptitude and interest in mathematics are well prepared and motivated to pursue advanced pathways, including Further Mathematics or A-level study. This approach not only supports high achievement but also fosters a genuine love of learning, encouraging pupils to explore mathematics in greater depth and engage with increasingly complex ideas with curiosity and independence.

Monitoring and Assessment

The school's monitoring and assessment process is designed to ensure that pupils' mathematical understanding is continuously evaluated and used to inform

teaching, intervention and long-term curriculum planning. Assessment takes place both formally and informally, with teachers using formative strategies in every lesson to check understanding, identify misconceptions and guide next steps. These strategies include the use of starter tasks to encourage recall, memory checks to revisit prior content, high-quality questioning, and structured opportunities for pupils to explain and justify their thinking. Marking systems and pupil responses further support this ongoing dialogue about learning.

More formal summative assessments are carried out at regular points throughout the year, including half-termly assessments, mock examinations and termly reviews, ensuring that teachers have reliable data on pupils' current attainment and progress. Baseline assessments (WRATS Tests) are also used when pupils join the school to identify strengths and address any gaps in learning early on. In Key Stages 1 and 2, tools such as White Rose Maths and Accelerated Maths provide diagnostic information that helps shape targeted interventions and personalised planning. As pupils move into Key Stages 3 and 4, assessments are aligned with National Curriculum objectives, ensuring that monitoring reflects the knowledge and skills needed for success at GCSE.

Assessment outcomes contribute directly to the school's monitoring of pupil progress over time. Teachers use data to develop gap analyses, review flight paths and determine whether pupils are on track to make expected progress. This information informs decisions about qualification pathways, for example, pupils projected to achieve lower levels are guided toward Functional Skills accreditation, while those demonstrating stronger trajectories are prepared for the AQA GCSE route. Regular discussions with pupils further help assess confidence and depth of understanding, ensuring that monitoring remains both accurate and supportive.

The department closely monitors student engagement and attendance in lessons as key indicators when forming accurate projections of target grades. Teachers track factors such as participation, effort, completion of classwork and homework, and overall attitude to learning, alongside attendance data, to build a comprehensive picture of each pupil's progress. This allows staff to identify patterns where lower engagement or irregular attendance may be impacting attainment. As a result, any student working below their target can be supported with clear, evidence-based explanations that consider both academic performance and wider learning behaviours, ensuring that responses are fair, transparent, and focused on identifying appropriate strategies for improvement.

The school uses Arbor alongside internal progress data to closely monitor each pupil's attainment and development across mathematics. Teachers regularly input assessment data, which is used to generate predicted grades and indicate whether pupils are working on, above, or below their target levels. In addition to academic progress, students' attitudes to learning—such as effort, engagement, and resilience—are also tracked to provide a more holistic view of their development. This information is collated and shared with parents through detailed end-of-term reports, issued three times per year by each department, ensuring clear communication and enabling parents to support their child's progress effectively.

Personal Development

Through mathematics, pupils' personal development is strengthened by helping them grow into confident, resilient and independent learners who can participate responsibly in modern society. Maths contributes to pupils becoming respectful and responsible citizens by teaching them to think logically, solve problems and make informed decisions, while also supporting their spiritual, moral, social and cultural growth through real-world applications and cross-curricular experiences. Pupils are increasingly prepared for adulthood as they learn essential life skills such as budgeting, interpreting data and using maths in practical contexts,

and they are encouraged to recognise how mathematical concepts link to real careers, from algebra in sports performance to ratio in cooking. Their talents and interests are nurtured through enrichment opportunities including STEM days, inter-school competitions, the UK Maths Challenge, World Maths Day and The Young Money Challenge, while weekly rewards and cross-curricular events promote motivation and pride in achievement. Together, these experiences ensure pupils develop confidence, curiosity and an appreciation of mathematics as a valuable tool for life.