Mathematics Curriculum

Curriculum Intent

What is the intent of the Maths curriculum?

- At St Thomas More Catholic Primary School we promote **high aspirations** and encourage all children to be curious, confident and competent mathematicians.
- In line with the National Curriculum for mathematics (2014), we intend for all children at St Thomas More Catholic Primary School to become fluent in the fundamentals of mathematics in order to develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- During Foundation Stage, the children engage with mathematics by following the mathematics strand within Development Matters (2021).
- Teachers use White Rose Maths as a basis to create a bespoke curriculum which develops children's knowledge sequentially from Foundation Stage up to Year 6, revisiting, remembering and applying earlier skills whilst learning new skills to achieve the objectives set by the National Curriculum for mathematics (2014) and Development Matters (2021).
- Our curriculum design provides opportunities for children to be **resilient** when solving increasingly complex problems by applying their mathematical knowledge in both familiar and unfamiliar contexts, and to model real-life scenarios.
- Our intention is for all children to be able to reason mathematically, follow a line of enquiry and develop and present a justification, argument or proof using precise mathematical language.
- We aim for children to understand the interconnectivity and relationship between different branches of mathematics.
- We teach a range of alternative methods for calculations and provide children with the skills necessary to use, apply and select suitable manipulatives and strategies which work efficiently for a given calculation.
- We foster an appreciation of number and number operations, which enables children's mental calculations and written procedures to be performed efficiently, fluently and accurately.

Curriculum Implementation

How is prior knowledge revisited?

- Through curriculum planning, prior knowledge is revisited continuously in order to build upon and develop into the next stage of learning.
- Lessons are carefully planned to ensure that all children are supported to achieve whilst children are appropriately challenged using manageable next steps that link to their existing knowledge.

How does the curriculum overview allow all children to achieve?

- Our aim is to make our SEND and Disadvantaged children to feel valued and included, and to have high aspirations. Inclusion is embedded in our practice and teachers regularly review and reflect upon their own practice to ensure progress is made. Teaching is adapted and responds to the strengths and needs of all learners.
- Teachers follow the White Rose yearly overview, which builds upon previous knowledge to ensure that the children know more and are able to remember more. It provides a comprehensive and coherent pathway through mathematics.
- Children are taught mathematics for approximately 1 hour daily. Mathematics sessions include both a fluency and mental starter, main input and a plenary.
- Teachers begin lessons with a short fluency starter. These progress children's fluency in number using oral counting (forwards and backwards in steps suited to the age of the children) and through instant recall of key facts (number bonds, times tables and addition and subtraction facts).
- Mental starters are carefully planned to give children the opportunity to recap and consolidate learning from previous units of work. This allows children to retain knowledge and form meaningful connections within the subject.
- During the main input the learning objective and key mathematical vocabulary are displayed and shared with the children. The learning is broken down into small, connected steps, building from what the children already know. This ensures that the whole class progress together.
- Teachers model concepts and develop children's knowledge at every stage of learning, regularly interchanging between concrete ideas, pictorial and abstract representations. The concrete stage uses manipulatives to solve problems. It brings concepts to life by allowing children to handle physical objects themselves. The pictorial stage uses pictures or models to support children in visualising the problem. Once children are secure in these stages, they can solve abstract mathematical challenges.
- Children across all ages and abilities have access to manipulatives, such as Dienes, Numicon and rekenreks, in line with our concrete, pictorial and abstract approach to teaching mathematics.
- Tasks set by teachers ensure that challenge is visible throughout the whole lesson; all children are asked to reason and justify their understanding. Teachers encourage mathematical talk through the use of both talk partners and adult-led discussion.
- Teachers and supporting adults are actively engaged in monitoring and scaffolding learning during lessons to ensure all children have a secure understanding of the lesson objectives. Children are encouraged to deepen their understanding through challenging, yet achievable tasks.
- Plenaries are used to allow the children to reflect on what they have learnt during the lesson. Children then have further opportunities to extend their thinking; this may involve looking at problems which require them to identify and articulate misconceptions, proving whether a statement is true or to challenge their mathematical thinking.
- Personalised weekly challenges for number bonds and times tables are used to motivate and encourage children to take ownership of their learning. Their successes are celebrated with certificates which are taken home to share with parents.

- The use of high-quality materials and tasks support the teaching of mathematics and are integrated into lessons. These include White Rose, NCTEM, NRICH, Mastering Number, Talk It Solve It and interactive resources such as Maths Beat, MyMaths and Purple Mash.
- Teachers are upskilled with regular CPD sessions either through whole-staff CPD training or dissemination of information by maths subject leaders.
- Teachers recognise, highlight and embed mathematical skills across the curriculum, for example within science or PE lessons.

How is cultural capital developed through the curriculum?

- Mathematics is a creative and highly-connected discipline which teachers emphasise through high-quality teaching and learning. Mathematics naturally links to the real world in many ways including through money, measures and data handling. Teachers take opportunities to give children the ability to apply their mathematical knowledge to real life scenarios.

How is assessment used effectively?

- Assessment is used consistently and strategically to evaluate children's progress, knowledge and understanding. It is a valuable tool used by teachers to be able to identify individual strengths and areas for development to inform next steps in planning and teaching. Teacher, peer and self-assessment, oral and written feedback and formative and summative assessments inform next steps, interventions, amendments and provision to ensure children are supported and extended.
- A variety of assessment is undertaken in order to support children and enhance learning by informing the planning in topics, to correct misconceptions, to fill gaps in knowledge, ensure coverage and completion of objectives, and to extend success. This will enable teachers to adapt and meet the needs of the learner.
- Formative assessment is carried out continuously in lessons and various forms of feedback to the child is provided in order to ensure progress, eliminate any misconceptions and to bridge gaps in knowledge, skills or conceptual development. Teachers then use this form of assessment to inform their planning.
- In addition to formative assessment, summative assessment is carried out termly during assessment week to reinforce teacher judgements and, through gap analysis, provides further opportunities to identify areas of development within individual classes. Children across Key Stages 1 and 2 use the White Rose assessment materials with the exception of Years 2 and 6 who use previous SATs papers.
- Formal assessment is reported three times a year to the maths subject leaders, SLT and parents; children's attainment is tracked and monitored using Target Tracker and discussed in pupil progress meetings with SLT. This ensures that targeted support can be given to those who need it. Bespoke interventions, such as pre-teaching, meet the needs of children identified as needing additional support.

- Mathematics attainment is reported at the end of each Key Stage in line with government guidelines. These, in turn, are reported to parents, SLT and governors.
- In Year 4, the online Multiplication Tables Check (MTC) is administered to children during Term 5.
- Parents are informed of the attainment and progress of their child during parent consultation evenings and in end of year reports. Specific test results, such as Year 6 SATs and the Year 4 MTC, are also enclosed in the end of year reports.

Impact

What does impact look like?

- By the end of KS2, all children will be flexible and efficient in their approach to mathematics. Children will demonstrate clear mathematical understanding and be able to articulate their reasoning with confidence; they will meet the requirements of the National Curriculum (2014) and Development Matters (2021) age-related expectations as a minimum. There will be clear, even accelerated, progression in their learning journey throughout their time at St Thomas More Catholic Primary School.
- Children will be confident and competent in their application of mathematics across a range of other subjects and in their everyday lives.
- Children will have **high aspirations**, which will see them through to further study, work and a **successful adult life**.
- Children will be **financially literate** and have a solid understanding of how mathematics underpins everything around them. This will enable them to be **socially mobile** and aware of all future possibilities in the wider world.

The **mathematics leaders** empower and support staff in the following ways:

- By keeping up to date on current issues; disseminating relevant information and providing training for staff members (either directly or through other professionals).
- Leading by example by hosting open classrooms or modelling key strategies.
- Having a clear knowledge of the quality of mathematics provision across the school.
- Identifying and acting on development needs of staff members.
- Monitoring expectations, provision and attainment across the school and providing feedback to develop practice further in order to raise standards.
- The mathematics leaders will provide a termly summary report to the Head teacher and governors in which the impact of our school development plan is evaluated.