



Maths at St. Michael's CE Academy

Intent—We aim to....



Support children to be enthusiastic and resilient learners who can talk confidently about their Mathematical knowledge and understanding.



Provide children with the tools to demonstrate a deep, conceptual understanding of Mathematical topics, allowing them to understand the purpose and value of Mathematics in the modern world.



Develop children's determination and perseverance to engage in productive struggle; understanding the notion that mathematical capability grows from hard work and practise.



Develop the belief that EVERY CHILD is capable of achieving great things in Maths and that our teachers are passionate about unlocking the beauty and creativity that lies within the subject.



At St. Michael's, our mastery vision encompasses the view that **all children** have the mathematical ability to apply their knowledge and understanding creatively and flexibly in unfamiliar situations. Learning is taken at a steadier and deeper pace, ensuring that no child is left behind, as well as providing deep and richer experiences for those children who are 'quick graspers' of a concept.



Implementation— How do we achieve our aims?

Through exploration

Lessons begin with an **exploration** task in which you see children exploring an initial problem that the teacher has prepared within the context of today's lesson. Children may have manipulatives out on the table or may have models or images that expose the structure of the lesson. During this time, teachers will circulate and differentiate by scaffolding children's access or extending children's thinking. Teachers will also encourage children to go deeper by asking for other methods or "what if?" The teacher will also identify examples of work that will be shared during the structure part of the lesson. During the **structure** phase, the teacher will draw attention to different methods of solving the problem.



Consistent representation and structure

Representations used in lessons to expose the mathematical structure being taught, the aim is that students can do the maths without using the representation. When introducing and developing the understanding of a concept, children need to experience multiple representations in order to build an understanding.



Collaborative Learning

We understand the importance of generating productive mathematical discussions in lessons. Opportunities are given for children to express, discuss, argue and reason their ideas whilst working with learning partners are of mixed prior attainment, but with a narrow deferential.



Coherence

Lessons are broken down into small connected steps. These gradually unfold the concept, providing access for all children which leads to a generalisation of the concept and the ability to apply the concept to a range of contexts.



Implementation continued.....

Variation

Variation is twofold. Initially it is about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deeper and holistic understanding. Additionally, it is also about the sequencing of the episodes, activities and exercises used within a lesson. This is evident in the follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

Typical Lesson Structure

Pre-Learning (optional)

Exploration Task

Guided Practice

The teacher asks the children to 'step into the shoes' of the person whose method we will practice today (the desirable method).

Intelligent Practice

Children independently engage in opportunities to develop both procedural and conceptual fluency, based on structured variation of the initial task and it further exposes the structure of the Maths.

Dong Nao Jin

"Use Your Head"
All children are given a problem to solve independently which challenges them to apply what they have learnt.

Fluency

Children develop a strong number sense, being able to use the most appropriate method for the task at hand.

Mastering Number

Reception, Year 1 and Year 2



Supporting other schools

Our Maths leaders actively support other schools with their journey in developing Maths Mastery and give advice and feedback where necessary. In addition, other schools visit St. Michael's to observe the teaching of Mathematics.

Staff Subject Knowledge

Our Maths leaders regularly work with Maths Hubs and Coventry Diocese Maths Leaders, and are able to build on their skills and knowledge. This allows them to keep up to date with new initiatives which are then shared with staff. All staff at St. Michael's regularly take part in subject knowledge enhancement courses, as we recognise how teacher's subject knowledge can impact on what happens in the classroom.

Impact—How will we know we have achieved our aims?



Children display an excitement and curiosity for Maths.



Children use precise mathematical vocabulary when exploring



Children can quickly recall key facts.



Children can represent concepts in various ways.



High-quality CPD ensures staff are well supported



Children can make connections when solving their problems.



Children's understanding of Mathematics helps them make good progress with a high percentage achieving age-related expectations.