Growing to be the best that we can be for God, Ourselves and Each Other
Thessalonians 5:11: *Therefore encourage one another and build one another up, just as you are doing.*

At St Michael's Federation, we are committed to providing our children with a curriculum that has a clear intention, well thought implementation and a positive impact on all our learners.

Curriculum Statement for the Teaching and Learning of Mathematics

Intent

When our children leave our federation of schools, we expect them to:

- have a positive attitude towards mathematics and an awareness of the influence of mathematics around us
- show competence and confidence in mathematical knowledge, concepts and skills
- have an ability to solve problems, to reason, to think logically and to work systematically and accurately
- demonstrate initiative and an ability to work both independently and in cooperation with others
- communicate mathematics and mathematically
- use and apply mathematics across the curriculum and in real life
- understand mathematics through a process of enquiry and experiment

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.
It is vital that a positive attitude towards mathematics is encouraged amongst all our pupils to foster confidence and achievement in a skill that is essential in our society. At St Michael's Federation, we use the new National Curriculum for Mathematics (2014) alongside The Teaching for Mastery approach (NCETM) as the basis of our programme. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress, and avoid gaps in their understanding that provide barriers to learning, as they move through education. All teachers are supported by Power Maths textbooks/practice books and NCETM materials. An emphasis on investigation, problem solving and the development of mathematical thinking as well as a rigorous approach to the development of teacher subject knowledge are therefore essential components of the approach to this area of study.

Growing to be the best that we can be for God, Ourselves and Each Other

Thessalonians 5:11: *Therefore encourage one another and build one another up, just as you are doing.*

Implementation

High Expectations	Modelling and mastery	Inclusive	Immersive
All children are expected to succeed and make good progress. Teachers believe in the importance of mathematics and that the vast majority of children can succeed in learning mathematics in line with national expectations.	The reasoning behind mathematical processes is emphasized. Teacher/pupil interaction explores how answers were obtained as well as why the method worked and what might be the most efficient strategy. Precise mathematical language, often couched in full sentences, is used by teachers so that mathematical ideas are conveyed with clarity and precision. We value 'mathematical talk' and children get lots of opportunity to talk about and evaluate their mathematics during lessons.	The whole class is taught mathematics together, with no differentiation by acceleration to new content. We do not group children by ability. The learning needs of individuals are addressed through careful scaffolding, questioning and appropriate rapid intervention where necessary, to provide the appropriate support and challenge	Children apply maths skills throughout the curriculum. Sufficient time is spent on key concepts to ensure learning is well developed and deeply embedded before moving on.

Teaching for Mastery Key Elements

Mathematical thinking	Representations & Structure	Coherence	Variation	Fluency
Opportunities for Mathematical Thinking allow children to make chains of reasoning connected with the other areas of their mathematics.	A focus on Representation and Structure ensures concepts are explored using concrete, pictorial and abstract representations, the children actively look for patterns as well as specialise and generalise whilst problem solving	Coherence is achieved through the planning of small connected steps to link every question and lesson within a topic.	Conceptual variation and procedural variation are used extensively throughout teaching. This helps to present the mathematics in ways that promote deep, sustainable learning	There remains an emphasis on Fluency with a relentless focus on number and times table facts

Features of Lesson Design:

1. Lessons usually follow a similar routine; teacher input and collaborative learning followed by intervention should an individual/a group require it. Independent practice includes reasoning, problem solving and higher-order thinking activities.

2. Lessons are well focused with one new objective introduced at a time.

3. Difficult points and potential misconceptions ae identified in advance and strategies to address them planned. Key questions are used to challenge thinking and develop learning for all pupils.

4. The use of high-quality materials (Power Maths textbooks/practice books) and tasks (NRICH, NCETM Mastery Assessment materials) to support learning and provide access to the mathematics is integrated into lessons.

5. There is regular interchange between concrete/contextual ideas and their abstract/symbolic representation.

6. Making comparisons is an important form of developing deep knowledge. The questions “What’s the same, what’s different?” are often used to draw attention to essential features of concepts.

7. Teacher-led discussion is interspersed with short tasks involving pupil to pupil discussion and completion of short activities. Formative assessment is carried out throughout the lesson; the teacher regularly checks pupils’ knowledge and understanding and adjusts the lesson accordingly. This forms part of the mastery learning instructional process.

Impact

The impact on our children is clear: progress, sustained learning and transferrable skills have developed. With the implementation of teaching for mastery programme becoming established and taught thoroughly in all key stages, children are becoming more confident mathematicians. By the time they are in upper Key Stage 2, most areas of study are familiar to them and they can begin to extend their knowledge into areas of self-study. As children have become more confident with this approach to teaching it has shown a consolidation of skills and a deeper understanding of how and when to use particular skills and operations. We hope that as children move on from us to further their education and learning that their depth of understanding and high aspirations travel with them and continue to grow and develop as they do.

Parental Involvement

We encourage parents to be involved by:

- Being available to answer questions or concerns about teaching for mastery approach that parents may be unfamiliar with.
- Inviting them into school twice/three times yearly to discuss the progress of their child.
- Providing parents with a yearly report outlining their child's achievements.
- Holding workshops for parents or family days when required.
- Sending homework activities regularly to be completed by or with their child.

Assessment & Monitoring

Formative Assessment

Formative assessment is used during and at the end of each lesson to ensure children are developing a clear and in depth understanding of the area of study. This also highlights any gaps in learning or misconceptions that need to be addressed immediately.

Summative Assessment

We use the Power Maths end of unit assessments and PUMA materials to give rigorous and regular summative assessment of basic skills in mathematics. This supports our teacher judgments alongside the children's work in their books at the end of each term.

Monitoring

The monitoring of maths teaching and pupil progress is the shared responsibility of teachers, the subject leader and the senior leadership team as well as the governing body. The work of the subject leader includes supporting colleagues in the teaching of maths, keeping up to date with current developments as well as providing a strategic lead and direction for the subject.