Maths Intent Statement

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind, we intend to provide a rigorously planned curriculum which caters for the needs of all our children, incorporating sustained levels of challenge through varied and high-quality activities with a daily focus on fluency, reasoning and problem solving. Mapping of mathematics across school shows clear progression in line with age related expectations. We believe that children need to be actively involved in the process of mathematical enquiry, explore mathematics in depth and be presented with numerous opportunities to think critically, discuss concepts and use mathematical vocabulary. We want our children to learn to ask questions by working collaboratively and strive to improve their ways of thinking mathematically from Early Years to Year 6.

A wide range of mathematical resources are required in all year groups and pupils are taught to show their working out using concrete resources before establishing ways of pictorially and formally representing their understanding. We aim to encourage children using quality first teaching and fostering and nurturing their resilience so that they have the acceptance that challenge is often a necessary step in learning. Our children persevere when looking for a solution and use consistent Concrete, Pictorial and Abstract approaches. They make connections with their learning, not only in the subject of mathematics but also mathematics across the curriculum. It is essential that our pupils are equipped to develop their cultural capital, helping to engender an appreciation of renowned mathematicians. We want our children to question the way in which the world works, promoting the spiritual growth of our pupils and their ability to transfer new knowledge from short term to long term memory.

Mathematics at Key Stage 1

Our aim is to develop pupil confidence and mental fluency with whole numbers, counting and place value. They should be able to recognise, describe, draw, compare and sort different shapes and use any related vocabulary. Pupils should also be able to describe and compare different quantities such as length, mass, volume/capacity, time and money.

Mathematics at Years 3 and 4

Emphasis in Years 3 and 4 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including known number facts and the concepts of place value. Children will be able to develop their ability and resilience to solve accurately a range of problems, including simple fractions and decimal place value. By the end of Lower Key Stage Two, our pupils should be secure in their recall of their multiplication tables up to and including the 12 times table.

Pupils will develop their ability to draw shapes with increasing accuracy and use mathematical reasoning to enable them to analyse shape and their properties whilst confidently describing the relationships between them. They should be using measuring instruments with accuracy, making connections between measure and number.

Mathematics at Years 5 and 6

A key focus for pupils in Years 5 and 6 is extending their understanding of the number system and place value to include large integers, developing their ability to make connections between multiplication and division with fractions, decimals, percentages and ratio. Their ability to solve a wider range of problems, including those involving increasingly more complex properties of number and arithmetic, which demand efficient written and mental methods of calculation.

With a firm understanding of arithmetic, our pupils are introduced to the language of algebra as a way of solving a variety of problems.

Further developing their skills, our pupils should consolidate and extend knowledge developed in number during their work on geometry and measures. Pupils should be able to classify shapes with increasingly more complex geometric properties and have a secure knowledge of the vocabulary they need to describe them. By the end of Year 6, pupils ought to be fluent in written methods for all four operations, including long multiplication and division, in working with fractions, decimals and percentages.

This covers all the statutory requirements of the National Curriculum.

Maths Implementation Statement

Our curriculum is shaped by our school vision which aims to enable all children, regardless of background, ability and additional needs to flourish and reach their potential. We teach the National Curriculum, supported by a clear skills and knowledge progression that enables children to reach curriculum end points. This ensures that skills and knowledge required are built on year by year and sequenced appropriately to maximise learning for all children.

Unit planning is based on the National Curriculum Statements and manageable steps published by the White Rose Maths Scheme (supplemented by NCETM, NRICH and Testbase).

As part of the planning process, teachers need to plan for mastery using the following:

- Precise questioning to assess children regularly, testing conceptual and procedural fluency and reasoning.
- How and when manipulatives will be used as part of the Concrete, Pictorial and Abstract approach within each lesson to scaffold difficult concepts.
- Emphasis on mathematical language and vocabulary so that pupils can discuss the mathematics they are doing and support them in taking ideas further.
- Practise and consolidation plays a central role in order to develop fluency and understanding of underlying and connected mathematical concepts.
- Tasks and targeted questioning are planned to challenge pupils throughout the whole session in order to deepen their learning and mathematical reasoning skills.

EYFS

In the Early Years Foundation Stage (EYFS), we relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG), as set out in the EYFS Framework.

Mathematics development involves providing children with opportunities to practise and improve their skills in counting numbers, calculating simple addition and subtraction problems, and to describe shape, space, and measures.

In Reception, the children are taught mathematics using the White Rose scheme of learning. This is delivered in the form of a daily teaching session followed by a teacher led focused activity.

There are opportunities for children to encounter Maths throughout the EYFS (both inside and outside) – through planned activities and the self-selection of easily accessible quality maths resources in continuous provision. Whenever possible children's interests are used to support delivery of the mathematics curriculum.

We continually observe and assess children using their age-related objectives and plan the next steps in their mathematical development.

Key Stage 1 and 2

Children are taught Mathematics for approximately one hour daily. Adult support is deployed during each lesson based on the needs of the children to ensure secure understanding and progress.

Lesson Design:

1) Date and WALT
2) A 'Flashback 4' discussion of prior learning to include vocabulary and linked mathematical/contextual skills.
3) Teaching input using expert modelling and explanations over worked examples.
4) Practise of new skills using whiteboards in order to ensure active learning and formatively assess understanding.
5) Challenge using questioning.
6) Independent practise with continued challenge and deployment of support and resources based on the needs of the children.
7) Embed understanding and address misconceptions using reasoning strategies (true/false, spot the mistake, explain why and prove it)
8) Deepen understanding (empty box, always/sometimes/never)
9) Lesson recap to include elements of post learning.

Skills sessions:

Teachers are encouraged to use skills sessions to immediately recap and revisit key learning areas such as number bonds, doubles, times tables, quick recall, mental maths, recall division facts etc. if not understood in morning maths session so that all children can keep up. These are made up of the following but not limited to:

Arithmetic practise/TT Rockstars/Numbots/Intervention/Problem Solving.

Assessment:

- Summative assessments through half termly updates on our online tracking system Educater.
- National Standardised Assessment Tests at the end of each key stage and the times table check in Y4.
- Assessment weeks at the end of November and March using White Rose end of unit/end of term assessments.
- Summative/diagnostic progress checks through termly White Rose/Rockstars Baselines.
- Weekly arithmetic assessments in Key Stage 2 (Year 3 usually start these in Autumn 2 and Year 2 start weekly arithmetic tests in the Spring term).
- Regular opportunities to tackle reasoning and problem solving questions from Testbase and White Rose.
- Ongoing formative assessment
- Prior and post learning links as structured by White Rose.

Moderation:

- In house
- Cluster moderation through the MCSP partnership.

In addition, Micklehurst All Saints is committed to improving the quality of teaching for all staff which encompasses both professional development and enhances subject knowledge.

Maths Impact Statement

Micklehurst All Saints has a holistic and supportive ethos. Our approaches support children in developing their collaborative and independent experiences. They challenge and celebrate the children's successes from the start so that our children develop a growth mindset and become confident and successful mathematicians. Our teachers and staff develop effective partnerships to engage parents using welcome meetings, newsletters, online messaging, and parents' evenings to further support children in meeting their age-related expectations

Regular and continuous assessment through feedback and marking informs and influences how a teacher will plan and ensure they are providing a mathematics curriculum that will allow each individual child to progress. The expectation is that the majority of pupils will move through the programme of study at broadly the same time, however decisions when to progress should always be based on the security of the pupils' understanding and readiness. Provisions made in the form of consolidation and additional practise ensure misconceptions are addressed purposefully. Those who grasp concepts quickly are challenged through a variety of more complex problems.

Children at Micklehurst All Saints have a confident attitude towards mathematics. They will use arithmetic and times tables fluently and make connections to solve real life problems moving between different contexts and representations flexibly and with fluidity. They will recognise that Mathematics is essential for everyday life and make at least good progress in Mathematics from their last point of statutory assessment or from their starting point in Nursery. Children will use their Mathematics skills as a key tool in helping them to learn, and as a result, know more, remember more, and understand more.

At Micklehurst All Saints, our outcomes are compared with statutory results at the end of Key Stage 2 and historically these have been in line with or above National Average figures.