Mathematics Curriculum Intent

Intent:
At Mansfield Green E-Act Primary Academy, we believe that mathematics is the foundation for understanding the world and that the habits of thinking mathematically are life-enriching. With this in mind, we foster positive attitudes and encourage all of our pupils to believe that they can achieve. We recognise that in order for pupils to reach their full potential, we need to ensure that our curriculum provides pupils with an opportunity to meet the aims of the national curriculum where they build up their fluency, reasoning and problem-solving skills.

The mathematics curriculum at Mansfield Green E-ACT Primary Academy has been carefully planned to ensure that all of our learners from Nursery through to Year 6 are provided with essential mathematical skills and knowledge that inspire an enjoyment of mathematics and help to develop a sense of curiosity, confidence and competence about the subject. We are an inclusive school and we have high expectations for all of our pupils including those with SEND.

In EYFS, our pupils are taught about numbers, patterns and connections, and spatial reasoning. It is vital that children develop a strong sense of number in the early years in order to allow for subsequent years to build on these foundations. Children are provided with regular opportunities to explore numbers up to 10 in detail and be able to count confidently. This is further developed as pupils transition to Year 1 where they learn to count up to and across 100 in ones. This helps them when they go into Year 2 and begin to count on and back in 2s, 5s and 10s from any given number. In Year 3, children count from 0 in multiples of 4, 8, 50 and 100. In Year 4, children count in multiples of 6, 7, 9, 25 and 1000. In Year 5, this knowledge is used to count forwards or backwards in steps of powers of 10 for any given number up to 1, 000, 000. By the time they reach Year 6, our children should be confident at counting and working with numbers up to 10, 000, 000.

Another crucial area of maths in the early years is patterns and connections as this forms the building blocks of early mathematical thinking. We teach them to become aware of patterns so that they can begin to spot patterns for themselves and make connections. As this is developed, children will be able to articulate what they have noticed. As children progress through school, ‘What do you notice?’ becomes a fundamental component of lessons when new concepts are taught.

The spatial reasoning strand of maths in the early years develops the learner’s reasoning skills in shape, space and measure. In EYFS, the children begin to recognise and remember how objects have characteristics such as shape, size, volume and weight. This enables them to manipulate objects to solve problems in the 3D world. This continues as children move through school and are provided with daily opportunities to solve problems linked to their mathematical learning. This consolidates one of the aims of the national curriculum which is to ensure that children can solve problems by applying their mathematics to a variety of problems.

Implementation:
At Mansfield Green E-Act Primary Academy, maths is taught daily as a discrete lesson. Each lesson begins with a ‘fluency’ warm up. Here, pupils practise concepts they have learnt but still need continued practice in. This is followed by a ‘retrieval practice’ which allows the teacher to segue into new learning and help strengthen prior knowledge in the area being taught. Our lessons follow an ‘I do, we do, you do’ approach whereby the teacher models explicitly, thinks aloud and moves to actively encouraging pupils to do the same but with support and then for pupils to have a go independently. Our calculation policy enables our teachers to use a range of concrete, pictorial and abstract representations to support their delivery of maths (as appropriate for the age and stage of the learners). These representations help with supporting understanding and encourage pupil reasoning within lessons. Our lessons end with a problem that pupils need to solve by applying the knowledge they have learnt. In this part of the lesson, pupils are encouraged to use specific mathematical vocabulary and different representations to help them reason and find a way to answer unfamiliar types of problems.

Long-term, medium-term and short-term planning is taken from the Collins Busy Ant Maths scheme of work. The distribution of the 36 teaching weeks in an academic year is organised into 12 three-week units. These units have been carefully structured in such a way to ensure continuity and progression, and that the amount of time dedicated to the different topics in the mathematics curriculum is balanced.

Impact:
The curriculum is planned so that pupils have regular opportunities to revisit different areas of knowledge and build on what they already know. There is time dedicated each week for gap getting and deliberate practice.
Having a ‘fluency’ warm up at the start allows learners to become fluent in the fundamentals of mathematics, develop conceptual understanding and their ability to recall and apply knowledge rapidly.
The introduction of daily problem solving for all means that no ceiling has been put on learning and that all pupils have the opportunity to apply their learning to a variety of contexts.

The impact of our mathematics curriculum is measured termly using teacher assessments alongside a suite of test materials linked to the NC expectations.
How we measure impact:

* Ongoing teacher assessment informs our planning throughout the year.
* We record the results in our whole school tracking system (Insight) for each child so we can monitor an individual child’s achievements and areas for development.
* QLAs provided by Pixl allows us to pinpoint specific gaps in learning and use targeted intervention to enable pupil progress to be made.
* We assess pupils’ fluency in the recall of times table facts weekly using a mixture of paper based testing and online testing in year 4.
* In Years 1 - 6, arithmetic is assessed weekly. The results of these tests inform teaching content for Friday’s lesson.
* We measure impact through careful monitoring of pupil progress and attainment.
* The purpose of our assessment is to track each child’s knowledge and understanding of the Mathematics curriculum objectives. This allows us to identify areas of strengths and weaknesses to inform our teaching.