

Maths Intent and Implementation Statement

Intent

At Eton Park our focus is on learning, not just within and across subject areas, but also the personal development of all learners who attend our academy. We strive to inspire all learners to go beyond what they consider possible for themselves, to experience and try new things and to realise all aspects of their potential. There are no glass ceilings put on any of our learners; we wish to ignite a passion for learning and for life that will remain with them as they move on to their next phase of their learning journey.

At Eton Park Junior: A de Ferrers Trust Academy we endeavour to teach our children a rich and progressive curriculum. We believe that Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. In our school we want to help children to understand and appreciate the pattern in number, geometry, measures and statistics in their everyday lives in and out of school. We encourage the children to develop these key and fundamental skills through a teaching for mastery approach. The children are expected to explore and deepen their understanding of Mathematics in hands-on small step lessons. The children build upon previous knowledge and known facts to reason, make connections and develop their understanding of the demanding KS2 curriculum. We want children to learn to appreciate the contribution made by many people to the development of Mathematics in our ever-growing society.

The National Curriculum for primary mathematics has three aims that are at the heart of how we interpret the content of the curriculum.

- **Conceptual understanding**

In developing children's skills through enhancing their factual, conceptual and procedural knowledge, we allow them to deepen their mathematical understanding and be able to apply what they know to help them to solve problems.

- **Mathematical reasoning**

The progression and development of mental calculations and efficiency in strategies will provide children with the skills which will allow them to communicate and present their findings effectively using appropriate mathematical language.

- **Problem solving**

At Eton Park, Mathematics is integral to all aspects of life and it is with this in mind that we endeavour to ensure that children develop self-confidence in their ability to approach a range of mathematical problems.

By providing opportunities to apply their mathematical skills in different contexts and across a range of subject areas, children will be able to work systematically to organise information, find patterns and ultimately solutions through independent and collaborative learning.

Teaching of Mathematics follows the National Curriculum and reflects changes introduced in 2014 for Key Stage 2. Currently, the Power Maths scheme of work drives the mathematic curriculum and is supported by recent and relevant staff CPD and resources from the NCETM.

Implementation

The children are taught in their classes so that work to support and enhance the learning and teaching of mathematics can be planned for more effectively and efficiently across the curriculum with a focus on raising children's attainment to age expected. Both staff and children understand the need to 'keep up, not catch up'. The staff are supported in doing this with the new implementation of the Power Maths scheme of work. Each teacher and teaching assistant has access to online and hard copies of expert and detailed planning and lesson resources.

A variety of teaching and learning opportunities provide the children with active and stimulating learning experiences:-

- Teachers share learning objectives via a problem solving (discover) activity at the start of each lesson.
- Carefully chosen, mixed ability talk partners are used to create speaking and listening opportunities for children to explain their thinking in mathematics. Mathematical talk and specific mathematical vocabulary is a non-negotiable. Children are expected to speak in full sentences when explaining a concept or procedure. Crucial sentence stems to embed understanding are recorded by teachers on the class 'maths working walls'.
- Children may work individually on a task, in pairs or in small groups, depending on the nature of the activity.
- To develop secure and deep conceptual understanding, staff are expected to plan for the use of concrete resources, representations and structures (outlined and guided through Power Maths) to reinforce learning objectives and to support pupils with English as an additional language and/or additional needs.
- Lessons are planned to engage and encourage the full participation of all pupils.
- Lessons are planned to engage and encourage the full participation of all pupils. The planning materials used by staff, within the Power Maths scheme, promote intelligent practice and as well as developing own staff subject knowledge, children have opportunities to develop their mental arithmetic skills within most lessons.
- Differentiation is seen through the concrete resources used, and/or the reliance on the representations and structures within a lesson to help embed a mathematical concept. All children are expected to be exposed to age related expectations and staff allow the time to plug gaps if they are not yet ARE within an area of mathematics. Staff understand what ARE and mastering looks like for each objective (power maths practice books) and plan for how their children will get there. In order to meet the needs of all pupils, children working above ARE within an area of mathematics have 'going deeper' opportunities planned by staff.
- Teachers create an ethos in which all children feel they can contribute and feel valued.
- Teachers place a strong emphasis on the correct use of mathematical language.

Lesson Structure

Lessons are planned using the National Curriculum and Power Maths scheme of work. All lessons are aimed at the year group the children are working towards. Daily lessons are shaped accordingly to meet the individual needs of the children and build on from previous learning. Pupils engage in mental strategies, practical work, investigations, problem solving, discussions and consolidation.

Work follows the expected level for the year group following the Power maths scheme All lessons begin with a 'discover' problem solving activity to introduce the concept being taught. Teachers are to model reasoning and problem solving thinking as well as the use of concrete or visual representations during the whole class led 'share' activity. Children have time to practise again during the third stage of the lesson in a 'think together' activity. This provides the teacher and support staff with the opportunity to assess the children's understanding and quickly address/challenge misconceptions. Each lesson follows an 'I do, we do, you do' model. This is heavily supported by the expert planning and resources outlined in the Power Maths scheme of work. Children then move onto their independent work in practice books. This work allows pupils to develop deeper mathematical knowledge as the problems increase in difficulty and depth. At this point, teachers and support staff are to satellite mark (green/ ponder purple marking) and address/ challenge misconceptions quickly within the lesson.

The fifteen minutes basic skills session.

Every class takes part in a fifteen minute skills activity where they are given opportunities to practise basic arithmetic skills and multiplication and division facts needed. Whole class chanting of tables, counting on, counting back and quick fire number bonds will often form a mini warm up in lower KS2 – this is supported by the 'popcorn arithmetic' scheme of work. Staff also have access to 'Power Up' activities if retrieval of a concept is needed. Upper KS2 have a greater focus on basic arithmetic skills and follow the 'Popcorn arithmetic' scheme of work and follow the 'arithmetic progression map' to develop efficient and speedy mathematicians outlined by the Maths Lead. All children are given the opportunity to retrieve previous learning within this time too. Staff may use retrieval practice resources such as, WRMH Flashback 4.

A plenary session or mini plenary sessions

To round off the lesson the teacher often emphasises the teaching point of the lesson. Using the 'reflect' within the Power Maths practice books, pupils are asked to present and explain their work, discuss and compare methods, generalise rules and make links with other work. These reflections are used for assessment and moderation purposes.