

At Edward Pauling Primary School, we aim to develop numerate children who are confident with number and understand mathematical calculations, in order to develop problem solving skills. Developing Mathematical knowledge is a key life skill.

Intent - We aim to...



Deliver a mastery curriculum that ensures our pupils become resilient Maths learners. We follow a teaching for mastery approach to enable our children to develop a deep understanding of Mathematics.



Create a positive attitude to Mathematics encouraging independence, courage and ambition (linked to our school values).



Ensure our children develop the number skills they will use throughout their lives ensuring fluency and the ability to problem solve. We want children to see the significance of Maths and to feel confident to use maths skills outside the classroom.



Ensure all teaching staff have high expectations of all children to reach their full potential.

Implementation - How do we achieve our aims?

Our Curriculum

Key Stage One and Two teachers implement the medium term plans that are suggested by the **White Rose Maths (WRM) Hub** schemes of learning. Nursery and Reception uses the National Centre for Excellence in the Teaching of Mathematics guidance (NCETM) for their medium term plans with some additional work from WRM. The White Rose Maths scheme of learning provide teachers with exemplification of maths objectives that incorporate **fluency, reasoning and problem solving** objectives and is founded upon depth before breadth- key aims of the National Curriculum. This scheme not only places the teaching of **number** at its heart, but supports a mastery approach to the teaching and learning of maths. Furthermore, planning supports children **working collectively** as a whole group and allows ample of time to build **reasoning and problem solving** elements into the curriculum. We use NTS (National Test-style Standardised) assessments to check **progress** each term. Class teachers also choose to use the WRM end of unit assessments when needed to ensure that learning can be independently applied. Mental Maths and retrieval practice opportunities are designed to secure knowledge and concept into the long term memory.

A Consistent Approach

Each class teaches four full maths lessons a week. Daily recall flashback slides recap previous learning. We follow the White Rose Maths (WRM) medium term planning with adaptations made where necessary. Short term planning is used to support consistent lesson delivery and structure with discreet teacher modelling and guided practice. Shared problem solving lays at the heart of every lesson.

Strong Foundations

Teachers in the EYFS are guided by their medium term plans, but also **flex** based on their knowledge of the children, so delivery of lesson content is appropriate to individual children and their next steps. EYFS teachers ensure mathematics is taught through an integrated approach and that children learn through a mixture of **adult-led activities** and **child-initiated activities** both inside and outside of the classroom. In EY there is a daily maths meeting with the children where they talk about the day of the week, month and season. They also use tens frames to do the register. Reception complete a daily maths activity using the WRM materials.

Development of Key Skills

WRM focuses on exploring and **understanding a concept in depth** rather than covering it superficially and then returning several times. **Prior content** is interleaved with new concepts to ensure children are building on previous knowledge. For example; when children learn about measurement they tackle questions that will require them to practice the four operations and fractions. This practice and consolidation enables children to grasp the **links** between topics and understand them more in depth. Teachers use WRM Flashback 4's alongside KIRF's (Key Instant Recall of Facts) to develop and secure mental maths fluency. Teachers plan **gap filling interventions** and **pre-teaching sessions** to support children to ensure that they keep up and not catch up.



Implementation (continued)



Cultural Capital

We have a firm belief that **knowledge is transferable**, our children are given every opportunity to participate in a wide range of learning experiences beyond their classroom. These experiences include trips to museums, theatres, adventure centres and community projects in and around London. They are also given regular opportunities to participate in school and national competitions to encourage more positive attitudes towards Mathematics. Cultural Capital is the essential knowledge that children need to prepare them for their future success – in the world of work, in relationships forged throughout life and as a valued contributor to society. When beginning their primary school journey in the EYFS, many children arrive to school with different and sometimes more limited experiences than others. Therefore, our aim is to give children the **knowledge and skills** to **prepare** them for what comes next in their lives. This includes the relevant **vocabulary** needed throughout their education and the opportunity to link maths to real-world problem solving. Years One to Six will be learning about many aspects of money including where it comes from, looking after your money, ways to pay, reasons to borrow, ethical spending and budgeting.

Vocabulary Development

Key mathematical vocabulary is displayed in the classroom and there is an expectation for all staff to model the correct mathematical terminology and to ensure children use the correct vocabulary at all times.

Manipulatives

Manipulatives are used during lessons as they support to build mental models of the concept being taught as well as building children's number sense. Manipulatives are not used to 'do' the Maths but to show the Maths.

Enrichment Opportunities

To **enrich** our Maths curriculum and to develop a love of Maths, our children have the opportunity to participate in a variety of activities, for example: children in KS2 are able to participate in the Primary Maths Challenge; throughout the year children participate in school based Times Table Rock Star Competitions and children in Year 5 participate in the £5 challenge- which also develops their entrepreneurial skills.

The Five Big Ideas

At Edward Pauling Primary School, our mathematics planning is underpinned by five key principles. These are: **coherence, variation, fluency, mathematical thinking** and **representation and structure**. This ensures children can build upon their prior knowledge and make connections between different mathematical structures and the relationships between them. In turn, this encourages children to develop deep and sustained knowledge.

Coherence

Lessons are broken down into small connected steps.

Representation

Used to expose the mathematical structure being taught.

Mathematical Thinking

Thinking deeply about maths, reasoning and discussing ideas.

Fluency

Supporting fluency in number facts and mathematical procedures.

Variation

Learning practices thinking through standard and non-standard examples.



Impact - How will we know we achieved our aims?



Children develop a love of mathematics and are actively engaged in lessons.

Children are confident answering fluency, reasoning and problem solving questions.

Children confidently apply their mathematical knowledge to problem solving and other areas of the curriculum.

All children make progress from a range of starting points and children's attainment increases over time.