

Intent

The National Curriculum for Maths aims to ensure that all children:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics

At Phoenix, these skills are embedded within Maths lessons and developed consistently over time. We are committed to ensuring that children are able to recognise the importance of Maths and have high aspirations for their own success in the wider world and that they are also able to use their mathematical skills and knowledge confidently in a range of different contexts. As such, we provide a rigorous curriculum of financial education, which runs alongside our maths curriculum. It is our aim that children leave Phoenix empowered and educated as financial champions.

We want all children to enjoy mathematics and to experience success in the subject, with the ability to reason mathematically. We are committed to developing children's oracy within maths lessons to enable them to achieve to the best of their ability and this involves them being able to be reflective about their learning. At Phoenix, we are passionate about enabling children to have an appreciation of the beauty and power of Mathematics.

Implementation

The content and principles underpinning the 2014 Mathematics curriculum and the Maths curriculum at Phoenix reflect those found in high-performing education systems internationally; a mastery approach grounded in the concrete and pictorial before moving to the abstract. These principles and features characterise this approach and convey how our curriculum is implemented:

- Teachers reinforce an expectation that all children are capable of achieving high standards in Mathematics.
- The large majority of children progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.
- Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge.
- Practice and consolidation play a central role. Carefully designed variation and intelligent practice within this builds fluency and understanding of underlying mathematical concepts.
- Teachers use precise questioning and mathematical vocabulary in class to test conceptual and procedural knowledge and assess children regularly to identify those requiring intervention, so that all children keep up.

To ensure consistency and progression, the school uses the White Rose Maths scheme of learning and assessments. The maths coordinator is an accredited Professional Development Lead and continues to ensure that staff at all levels understand the pedagogy of the approach through regular moderations and training sessions led by herself or within the maths hub.

Mathematical topics are taught in blocks, to enable the achievement of 'mastery' over time. Each topic begins with an introduction or a hook, such as a maths story, video clip or

programs such as Number Blocks in EYFS. Teachers then ensure that prior learning is secure by identifying the key skills that are pre-requisite for the new learning by using diagnostic questions. When these have been assessed as secure, the teaching then moves to a 'worked example' phase, whereby the teacher models the learning in silence. This can include concrete manipulatives or visuals. The silent teacher not only allows for a reduction in peripheral working memory distractions, it also ensures that all students are actively participating rather than relying on adults or peers at this time. It is during this stage that children's meta-cognition is encouraged through the use of reflecting, expecting, checking and explaining. Teachers model very precise mathematical vocabulary, which children are then expected to demonstrate, strengthening their maths oracy. Next, independent work provides the means for all children to develop their fluency further, before progressing to more intelligent practice related problems. These allow students to notice specific relationships between questions and answers, notice both examples and non-examples of the topic and also allow teachers to inter weave high-value concepts throughout the questions. These could include: odd numbers, fractions or negative numbers. It is then that the children are exposed to problem-solving tasks and these are built up and modelled to teach children how to answer these types of questions. Each lesson phase provides the means to achieve greater depth, with more able children being offered rich and sophisticated problems, as well as exploratory, investigative tasks, within the lesson as appropriate.

Impact

The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills, as well as oracy and the need to recognise the achievement of others. Children can underperform in Mathematics because they think they can't do it or are not naturally good at it. At Phoenix, we address these preconceptions by ensuring that all children experience challenge and success in Mathematics by using metacognition and developing a growth mindset. Regular and ongoing assessment informs teaching, as well as interventions such as pre-teaching and targeted booster sessions, to support and enable the success of each child. These factors ensure that we are able to maintain high standards.