

Finham Primary School & Nursery is a vibrant 'child-centred' learning community that is part of a family of schools in Finham Park Multi Academy Trust. We have based our school ethos on 5 key values that enable our children to be better equipped for today and their future.

Teamwork

Respect

Integrity

Enjoyment

Discipline

Intent

At Finham Primary we take a 'mastery approach' to the teaching and learning of mathematics. We believe that all children can succeed in all areas of maths, so our resources follow a growth mind set and problem-solving approach. Through this, all children are encouraged to believe in their ability to master maths and persevere when faced with challenge. We aim to spark curiosity, develop confidence and encourage a 'relational understanding' – whereby children are able to spot connections that exist between different mathematical topics. We want to create children with strong number sense, who can quickly recall facts including times tables and accurately calculate using the four operations. Whilst developing children's fluency in maths, we also look to apply mathematical skills in a range of situations to help develop a deep and long-term retention of learning. We seek to challenge children through more complex mathematical concepts, with the ultimate aim of developing well-rounded mathematicians, who can recall facts, show their fluency, and have the ability to reason and problem-solve.

Implementation

At Finham, teachers plan for a four-stage mathematics lesson, that is made up of: **Explore, Clarify, Practice and Extend**. When starting a lesson, children will usually be faced with a problem or question that they must discuss and **explore**. Typically, children are given time to question and discuss with their classmates before giving an answer. Next, teachers **clarify** the problem by addressing misconceptions and questioning students about possible approaches. Teachers will then model further examples to help consolidate understanding. During **practice**, children will be engaging with tasks that challenge them and allow them to develop within the L.O. Teachers act as facilitators during practice and may have focus groups to provide targeted support. All children will then partake in daily mastery that helps to **extend** their understanding, this usually comes in the form of reasoning and problem-solving where teachers encourage further discussion and explanation. If required, planning is completed on the school's planning pro-forma and is then uploaded onto the 'planning' site on FROG prior to the commencement of the week.

White Rose Maths Hubs – These schemes have been written *by teachers for teachers*, they follow a block-by-block approach to teaching mathematics, which is comprised in a Yearly Overview. These schemes have number at the heart, at Finham we believe number forms the platform for developing competent mathematicians. Hence, a large proportion of time is allocated to reinforce number skills. At Finham, we value the concept of depth before breadth, so children are given plenty of opportunity to challenge themselves by engaging in reasoning and problem solving that is specifically designed for their year group. Through using White Rose and its associated Premium Resources, teachers can ensure, by working through the small step progressions, that the class have the opportunity to be successful and learn together. By employing low differentiation systems, teachers have high aspirations for all and are able to adapt the level of challenge by varying the amount of mathematical application that their children engage with.

Children at Finham are taught using a CPA approach: **concrete, abstract and pictorial** representations. Children should have the opportunity to use **concrete** objects and manipulatives to help them understand mathematical concepts. This should be seen in all classes and phases not just in EYFS and KS1. **Pictorial** representations should then be used alongside concrete manipulatives, these can be especially useful during reasoning and problem-solving as they help the children to clarify understanding and support their lines of thinking. By allowing children to engage with **concrete** and **pictorial** representations teachers should be able to facilitate children's understanding of **abstract** methods, which typically pose the greatest challenge. Understanding the abstract maths is our ultimate aim.

At Finham we uphold the aims of the National Curriculum that link to **Fluency, Reasoning and Problem Solving**. Through procedural variation the children engage in a wide variety of activities. We aim to: develop children's fluency in the context of number and calculation; develop their ability to reason mathematically focusing on 'the why' and justifying their answers; and solve a variety of problems where they have to apply the mathematics they have engaged with.

Assessment: mathematics assessment is primarily recorded on DC Pro. Assessment is also gathered through White Rose tests. End of block test assess the children's understanding within the topic block they have just been taught. Whereas, the end of term arithmetic and reasoning tests will provide the child's summative score for that term. Teachers track assessment scores and analyse tests. They use this data to identify gaps in the children's knowledge in order to be responsive and plan for the next steps in learning.

Number Facts. Times table practice is essential for developing a secure understanding of number. They underpin a multitude of mathematical concepts and should be practised by the children during the week. In order to be fluent children should learn both multiplication and division facts. At Finham, we use Century, Numbots and TT Rockstars – online programmes that help to develop children's understanding of simple addition, multiplication and division facts and general topics within maths.

Finham Primary are currently enrolled in projects with the NCETM (National Centre for Excellence in the Teaching of Mathematics). We are working on both the 'Mastering Number Programme' and the 'Mastery Developing Programme'. Working alongside professional experts allows us to embed a mastery approach to the teaching of mathematics, improve the way we develop our younger children's understanding of number and hone staff's skills with effective CPD.

Enterprising opportunities are being developed as part of the maths curriculum. Encouraging Finham children to be involved in enterprising projects helps them to understand the value of money, but also teaches them how maths can relate to real life. Example projects include: 'My Money Week' (June 2023), 'Barclays Money Skills' 'Coventry Building Society Projects' 'Year 6 Takeover Day' 'School Council/Young Ambassadors'.

Throughout the week, children routinely practice their calculation and arithmetic skills. Children take part in '5-a-day' - a separate, short, fluency session that helps to consolidate previous learning. Teachers use these sessions to encourage regular practice of key skills but also to eradicate misconceptions if they occur. Through experiencing regular success in fluency sessions children develop more positive attitudes towards maths. As part of co-construction, a **MAT Calculation Policy** has been agreed with respect to the way in which calculations are set out. This has been extremely useful for students as it limits the confusion during transition periods and allows students to focus on developing their calculation skills.

Impact

Mathematical concepts or skills are mastered when a child can show understanding in multiple ways. Teachers plan a range of opportunities to use maths, sharing multiple representations that develop children's ability to recognise relationships and make connections in maths lessons.

Children can use mathematical language to explain their ideas, and can begin to apply their knowledge of a concept when engaging with unfamiliar problems. Pupils also use acquired vocabulary from maths lessons, have the skills to use methods independently and begin to show resilience when tackling difficult problems.

Children show a high level of pride in their presentation in books. They enjoy maths and want to develop their levels of mathematical understanding. They can demonstrate quick recall of facts and procedures, including the recollection of times tables, which support their learning across the curriculum. Pupils are beginning to know how and why maths is used in the outside world and in the workplace. They are beginning to understanding the different ways that maths can be used to support their future potential.

At the end of each year, we expect the children to have achieved the expected standard (EXS) for their year group. Some children will have progressed further and achieved greater depth (GDS). Children who have gaps in their knowledge receive appropriate support and intervention. We are in a constant cycle of assessment and being responsive, in order to enable all of our Finham mathematicians to succeed. KPI data shows high levels of attainment/progress in Reception, Year 2 and Year 6.

Ultimately, Finham children should have a secure understanding of maths which they can apply in different contexts. They should be confident rounded mathematicians, who can recall facts, show their fluency, and have the ability to reason and problem-solve.