



## Maths at Ashmole Primary School

***‘To create resilient and inspired Mathematicians who have the necessary tools to solve problems and communicate mathematically.’***

### Intent

Mathematics is important in everyday life and this will continue to be the case long after our pupils leave Ashmole Primary. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. With this in mind, we approach maths as an opportunity to solve problems, to reason, and to think with increasing levels of logic and accuracy. Children take on the role of questioners and explorers. They learn to work practically and systematically; to understand new concepts in a concrete way. Moving from the concrete to pictorial means that, as children arrive at more abstract work, their understanding and learning is embedded in a way that is secure and can be built on. It is our aim to support children in seeing links between maths and other areas of the curriculum as much as possible.

It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.

Our goal is for all pupils to:

- become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- be able to solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
- reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately to be successful in mathematics.

## Implementation

At Ashmole Primary school, staff subject knowledge allows the intentions of our mathematics curriculum to be delivered successfully. We continually strive to build upon the excellent understanding of the expectations of the curriculum that our staff have. We achieve this through regular quality CPD which is provided through the subject leader, external courses and collaborative lesson study.

Curriculum maps are based on our yearly overviews which set the curriculum out in blocks enabling children to get to grips with different areas of maths through extended periods of time. Alongside White Rose materials, we use NCETM and NRich to ensure that our offer is rich and varied. These are used across KS1 and KS2 allowing children to be exposed to a variety of different types of learning and to ensure coverage of fluency, problem solving and reasoning in different formats. Teachers also implement the schools agreed calculation policies for progression in written and mental calculations. Pre and post unit assessments are used where appropriate along with termly assessments which help teachers to gather an understanding of their pupil's existing and developing knowledge and skills.

Mental maths skills are reinforced in each lesson and a concrete, picture, abstract approach is used. Correct mathematical vocabulary is used by all teachers and this is discussed with and explained to children who are then encouraged to use it independently when talking about maths. Vocabulary is displayed clearly on working walls and is referred to in every lesson. Timetabled interventions for maths are in place for children with SEND; all other children receive regular group support as part of their maths lessons with further support for individuals or small groups where a need is identified.

Fluency is developed through repeating, reinforcing and revising key skills; daily arithmetic takes place in all classes. Children are given time to practice and perfect their calculation strategies including giving pupils the opportunity to make appropriate decisions when estimating, calculating and evaluating the effectiveness of their chosen methods. Feedback is given in a variety of ways to ensure pupils are well informed and making visible progress. Discussion is essential to learning and children are encouraged to discuss their thoughts, ideas and methods with a partner, group or the teacher.

Task types are varied to suit different pupils and their learning preferences; developing reasoning remains one of our key focuses. Investigative tasks are designed to allow pupils to follow lines of enquiry and develop their own ideas, justifying and proving their answers. Children work both collaboratively and independently when solving problems which require them to persevere and develop resilience.

## Impact

The impact of our mathematics curriculum is that children understand the relevance and importance of what they are learning in relation to real world concepts. The children have a positive view of maths and they know that it is OK to be 'wrong' and that this can strengthen their learning because the journey to finding an answer is most important. Our children have a good understanding of their strengths and targets for development in maths and what they need to do to improve. Our maths books evidence work of a high standard of which children clearly take pride; the range of activities demonstrate good coverage of fluency, reasoning and problem solving.

We ensure that when assessing pupils, evidence is drawn from a wide range of sources to inform the process, including interaction with pupils during discussions and related questioning, day-to-day observations, practical activities, the gathering, presentation and communication of information and written responses. Termly, the children's learning is assessed in class through testing, and the data is compared to data previously collected for each child. Any issues or gaps can be quickly identified and addressed through intervention groups, class learning foci and other support as needed. EYFS baseline assessments, statutory testing at the end of Year 2 and Year 6 and times tables testing in Year 4 all give extra information about the impact of our maths curriculum. These assessments are considered when reviewing our priorities in striving for excellence.

Our feedback and interventions support children to strive to be the best mathematicians they can be, ensuring a high proportion of children are on track or above. Our school standards are high, we moderate our books both internally and externally and children are achieving well. At the end of each year, we make a summative judgement about the achievement of each pupil. Teachers decide upon a 'best fit' judgement as to whether the pupil has achieved and embedded the expected learning goals, exceeded expectations or is still working towards the goals. Achievement against the learning goals for maths at the end of the year is used as the basis of reporting progress to parents.