



## Mathematics Vision at Brindley Heath Academy



At Brindley Heath Academy, it is our **intent** that all children will have a passion for mathematics. Our vision for mathematics focusses on the teaching of core objectives, enabling our children to be competent mathematicians for life. We are proud that our mapping of learning objectives allows children to develop a true depth of mathematical understanding, thus allowing them to become confident and independent mathematicians.

The design of our mathematical curriculum enables children to build on prior learning from different points in time while staff ensure this prior learning is regularly recalled, particularly through the use of 'Flashback Friday'. New knowledge and concepts are taught, whilst allowing children to consolidate and secure prior learning. Problem solving and Reasoning opportunities are provided for all pupils and they are actively encouraged to ask questions and given explanations at the appropriate level. Our wider curriculum also presents our pupils with opportunities to apply their skills into other areas of learning.

Through the **implementation** of daily mathematics lessons which are engaging and purposeful, children will be taught objectives progressively. Clear and well planned modelling using a concrete, pictorial and abstract approach is used across the school, ensuring children have a clear understanding of new concepts. Resources are readily available for children to access independently. It is our belief that children should be empowered to make their own choices about their learning; this could be through the use of apparatus, peer support or moving through stages of the lesson at the pace appropriate to them. In all lessons, opportunities are planned to enable children to use a wide range of vocabulary, which in turn enables them to make connections with their learning, as well as to reason and explain key concepts. Throughout lessons, children are challenged and given scope to practice new skills before applying these in a wide range of situations. Our support, scaffold and stretch approach to learning ensures all opportunities are perfectly pitched to the evolving needs of the pupils. Ongoing teacher assessment, throughout daily lessons, enables staff to plan carefully for the needs of pupils, while our clear tracking of progress ensures that children can revisit learning in a small group when required.

The **impact** of mathematics at Brindley Heath Academy will ensure children make the required progress over time, as well as reaching the age related expectation at the end of Key Stage 2. Our toolkit of progression documents, written calculation policy, clear medium term planning and assessment information will ensure lessons are purposeful and delivered to a high standard, resulting in outstanding outcomes for our pupils. This in turn, will ensure our pupils are resilient, confident, independent as well as proud of their mathematical capabilities.

## Our Planning Journey



Medium Term Planning is completed each term which maps the TAF's to be covered in each week.

Weekly Planning is completed showing the maths journey for that week.

Daily Maths lesson

Assessment during the lesson and after looking at children's work enables next steps to be planned for. Assessment information is recorded using our tracking system.

Each Friday, children will complete a 'Flashback' sheet where they will revisit four TAF's.

REVIEW - Flashback Four	
<p><b>This Week TAF 50</b></p> <p>Write the date down on the clock.</p> 	<p><b>Last Week TAF 48</b></p> <p>Look in the jar that has the most sweets!</p> 
<p><b>Last Month TAF 30</b></p> <p>Round this number to the nearest whole number.</p> <p>4.2</p>	<p><b>Last Term TAF 20</b></p> <p>There are 2 baskets. Each basket has 5 apples in it. How many apples are there altogether?</p>

Medium Term Planning is held centrally on TEAMS and is created using the appropriate year groups TAF's for that term. Emerging TAF's are planned during the Autumn term, Developing for the Spring term and finally Secure in the Summer term which also include Greater Depth TAF's for our more able mathematicians. The medium term planning ensures children are taught the appropriate mathematics curriculum at an appropriate pace. These plans are regularly updated and monitored to ensure they are effective.

Weekly planning is completed and shared centrally using a whole school proforma and again kept centrally on TEAMS. It is expected that children in each year group are given the same opportunities, however, this can be altered according to suit the needs of pupils in each classroom. The weekly plan will detail the TAF's to be covered during that week's journey and should show vocabulary children will need to be familiar with and using explicitly during their lessons. It will also show how our SEND children will be supported, how some pupils will have scaffolded learning and how our more able children will be provided with opportunities to 'stretch' their understanding.

During the daily mathematics lesson, children will spend the first part of the lesson using mental maths strategies appropriate to their year group and as mapped on the medium term plan. Following this, new learning is modelled for the children, before they have the opportunity to practise new skills for themselves. Children will then have fluency questions which allow them to practise the skill, they will then apply this in a problem solving situation before completing questions which enable them to reason and explain their thinking. At all points in the lesson, we encourage children to take responsibility for their learning journey. This may mean that more fluency questions are completed or children may move on more quickly to solve problems. Throughout the lesson, the adults in the room will be assessing learning responding to the needs of the children, this also means that some children may have a 'staggered start' and begin independent work before the other children.

The observations made during lessons as well as the work in children's books informs teacher's on how well a child has met the TAF for that day. Following the lesson, staff will complete a tracking grid using green, orange or pink to show how well a child has performed. Children who have not met the learning objective will then be given a 'Getting to Green' task which may be done in maths surgery with an adult or independently.

At the beginning of each Friday's maths lesson, children will complete a 'Flashback Four' sheet. This has four questions from different points in the long term journey. The points in time include; from the previous term, the previous month, the previous week and finally the current journey. This revisiting of TAF's allows staff to make judgements on how well learning has been retained. Assessment information is added to the tracker using blue.

## Our Concrete, Pictorial and Abstract Approach

At Brindley Heath we use concrete apparatus to introduce children to abstract concepts. In depth details of how this is done for a range of TAF's in each year group can be found in our Written Calculation Policy. Each classroom



has a range of concrete apparatus for children to use and for staff to model with and includes; place value counters and base 10. Once children are competent with such resources to support their maths, they can then use pictures to help them to solve problems before using more formal column methods. This approach is used across the school and ensures children have a better understanding of the concept they are learning and consequently will mean knowledge is internalised to a greater degree.

## Our Working Walls

In each of our classrooms there is a 'Working Wall' for mathematics. This is an interactive display which supports and reinforces children's learning at that point in time. It is important the working wall is relevant to the children and should include; key vocabulary, learning objectives, keys to success as well as modelled examples. Children should be familiar with the working wall and use it to support learning within the lesson. Work from the children may also be added to support the learning of their peers.

## Times Table Rockstars

Learning times tables so that children can quickly recall facts is vital for mental arithmetic and also means children can solve maths problems competently in their head. As well as practising times tables at school, children also have a log in for 'Times Tables Rockstars' which enables them to practise tables appropriate to their age or need at home. Tables are set by the class teacher and staff are able to see how successful children are. In addition, we also use competitions often amongst classes or year groups to encourage children to use this brilliant resource.



## The Role of Maths Leader

The Maths leader provides leadership and direction for mathematics, ensuring that it is managed and organised in order to meet the aims and objectives at Brindley Heath. They will be responsible for producing up to date progression documents as well as other policies. In collaboration with Head of School, they will ensure high standards of teaching and learning in their subject. Through regular monitoring of planning, children's work, looking at data and learning walks, the leader will support staff to improve the quality of maths provision provided, meet the needs and aspirations of all pupils, and consequently raise standards of achievement at our school. Evaluation of such monitoring will also help to inform the next steps of the school's journey with regard to mathematics. In addition, the maths leader will support, guide and motivate teachers of the subject, and other adults by leading professional development sessions.

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