

Maths

Intent

At Biddick Hall Infant and Nursery School, we aim for our children to enjoy maths and become confident, resilient and skilful mathematicians where they are able to make links in their learning to a range of contexts and maths in real-life.

Implementation

As a school, we are currently working closely with the North East Maths Hub on the 'Mastery Readiness Programme'. We are in year 3 of 4 working towards a whole school mastery approach that complements the Primary Advantage (PA) maths programme that we follow.

The PA Maths Programme is followed throughout the school and is supported by the Mayor of London and the DFE. By following this approach, we are committed to a Concrete, Pictorial, Abstract approach, which supports the development of children's deep conceptual understanding, good progression and positive attitudes towards maths. Children in all year groups experience using concrete resources on a daily basis such as dienes, counting sticks, counters, cubes and numicon.

During lessons, children are exposed to a range of models and images including part whole models and bar modelling to support their thinking and understanding. There are opportunities for children develop fluency in maths, problem solving and reasoning about numbers in all maths lessons.

This academic year we have introduced the 'Mastering Number' Programme in all year groups from reception to year 2. This is to ensure that all children have fluency in number facts and that they are recalled with automaticity and to develop number sense. Mastering number sessions are taught four times a week for 15 minutes and are taught in addition to the main maths lesson.

Maths Curriculum: As its underpinning aims, problem solving reasoning and fluency are at the heart of the National Curriculum, it indicated that these areas should be woven through all teaching and learning in maths. The PA maths programme supports this approach and believes that through developing children's problem solving, reasoning and fluency skills there will be a range of positive outcomes including the development of children's conceptual understanding, their ability to use maths in meaningful ways and positive attitudes throughout their time in our school.

Inclusion and equal opportunities: It is our belief that all children can and will succeed in maths. Our curriculum is fully inclusive and supports ranging needs and cultural diversity.

Differentiation and challenge: All learners are able to access the learning objective and children will be supported through with fluency, where needed, in the moment intervention, CPA approach and skilful questioning. Children who are 'rapid graspers' or 'working at greater depth' in maths will be challenged through their explanations, through their responses to a problem and through careful questioning from teachers. Children will be encouraged to provide solutions to a problem in different ways; considering which is most effective and why.

Intervention: Teachers follow a same-day intervention approach. Our approach to intervention is reactive and linked to the curriculum content. We do not follow a specific intervention scheme.

Speaking and listening: As with the mastery approach, children are encouraged to become mathematically articulate – speaking in full sentences and using appropriate vocabulary. Key vocabulary is displayed and referred to.

Planning in maths: We plan from the PA maths programme (linked to the National Curriculum). Teachers plan weekly overviews, using a range of resources and publications that support a mastery approach. Teachers' planning is adapted according to the needs of the children on a day-to-day basis.

Teaching of calculation: We follow calculation guidance specified by the National Centre for Excellence in Teaching Mathematics and as set out in our whole school 'mastery calculation policy'.

Timetabling of maths: In EYFS children in Nursery are taught in key groups. They complete a daily message board which has a maths focus of approximately 5 minutes. Children then have another 10 minutes of maths group time each day. This can be as a whole class or key, small group. The amount of adult led maths increases across the year as the children are able to sustain more focused learning. In reception, children are taught maths in a large group, whole class approximately 20 minutes and 20 minutes small group daily. In KS1, children have a daily maths lesson lasting approximately 50 minutes-1 hour.

Maths in EY: The PA maths approach is now embedded in the Early Years. We plan for maths in the learning environment and through stories. We support this using practical resources, such as tens Frames, Numicon, counters and objects found in the natural world such as sticks, pebbles, pine cones, conkers etc. Maths activities are taught both whole-class and in small group.

How do we assess maths? Assessment happens daily through questioning and diagnostic marking. Teachers use assessment trackers based on the Teacher Assessment Framework and EYFS framework respectively. We use these to indicate progress in maths and they are updated regularly. Termly assessments carried out by teachers for each child. This forms part of the overall teacher judgement along with children's books. Children are identified as emerging (e), developing (d), secure (s) against age related expectations.(ARE) A (+) indicates that a child has achieved depth wherever they are in their breadth of knowledge.

Information and communication technology (ICT) in maths: maths is linked to computing where applicable. Teachers use ICT to support teaching (for example, interactive resources and maths programs) and pupils use ICT to support learning for example maths games linked to their learning on the internet, and use programmes such as purple mash and espresso.

CPD in maths: Is delivered by the Maths Lead, key teachers, the Primary Advantage teaching schools, involvement in maths hubs and through the local authority.

Work and presentation: jottings and workings are promoted in maths. Children are encouraged to use models and images in their explanations. Some work is practical using resources and sometimes photographed for evidence. Most work is completed in pencil.

Marking: most marking is done 'live' during lessons, teachers will respond to misconceptions as a whole class or through intervention. We do not encourage lengthy comments in maths marking. Learning objectives will be highlighted pink when children have been successful and areas for development in green.

Evaluation and monitoring: There is a monitoring cycle for maths through performance management, pupil voice discussions, governor meetings, learning walks/drop-ins and work scrutinies.

School governor role in maths: there is a curriculum link governor allocated for the oversight of maths. Governors will be asked to join the monitoring cycle with SLT. Key documents/action plans will be shared when updated and regular meetings will be held with the curriculum link governor.

Impact

Our maths curriculum will:

- Build confident mathematicians. At Biddick Hall Infants, we follow a CPA approach. Children have daily exposure and access to a range of concrete resources and pictorial representations that they can draw upon before moving on to abstract. 'Mastering Number' lessons four times per week also ensures that children are fluent in key number facts relative to their age and phase.
- Ensure children have a secure understanding of all mathematical concepts as outlined in the national curriculum. In maths lessons children practice skills of fluency (rapid recall of key facts) reasoning (making connections) and solving problems (applying maths skills acquired to solve a variety of different problems).
- Be accessible to all regardless of background or starting point. Lessons are designed to be delivered in small steps where all children are able to access the same learning objective. Children receive 'in the moment' intervention when needed.
- Build resilient mathematicians. Children will demonstrate a 'can do' attitude towards tackling problems in maths.