

Barmby on the Marsh Primary School – How do we teach Mathematics?

INTENT

At Barmby on the Marsh, Mathematics education should be fully inclusive to every child. Our aims are to fulfil the requirements of the National Curriculum for Maths; providing a broad, balanced and differentiated curriculum; ensuring a foundation for understanding the world links with STEM subjects is provided. Furthermore, we aim to create a highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. A high quality mathematical education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and sense of enjoyment and curiosity about the subject.

Mathematics teaching at Barmby on the Marsh has a wide application to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A culture of learning from each other is promoted through use of co-operative learning structures. This is developed across both key stages, so that the children learn to respond appropriately and supportively to each other regardless of gender, age, cultural or ethnic background.

The aims of teaching mathematics in our school are to ensure all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Special Educational Needs Disability (SEND) / Pupil Premium / Higher Attainers

At Barmby our aims are:

- To ensure full entitlement and access to high quality education within a broad, balanced and relevant curriculum;
- To identify barriers to learning as early as possible;
- To reach high levels of achievement for all so that children can reach their full potential;
- To meet individual needs through a wide range of provision, providing differentiation that aims to remove any barriers to learning;

Where children are underachieving and/or identified as having special educational needs, the school provides for these additional needs in a variety of ways and might use a combination of these approaches to address targets identified for individual pupils:

- High quality teaching is our first step in responding to pupils who have SEN. This will be differentiated for individual pupils.
- Wave 1,2,3 interventions;
- Other small group work;
- Class support;
- Bilingual support/access to materials in translation;

- Further differentiation of resources.

Any children with identified SEND or in receipt of pupil premium funding may have work additional to and different from their peers in order to access the curriculum dependent upon their needs. As well as this, our school offers a demanding and varied curriculum, providing children with a range of opportunities in order for them to reach their full potential and consistently achieve highly from their starting points.

IMPLEMENTATION

To ensure high standards of teaching and learning in mathematics, we implement a curriculum that is progressive throughout the whole school. Mathematics is taught to pupils in their age groups of EYFS, Key Stage 1 and Key Stage 2, focusing on knowledge and skills stated in the National Curriculum. At Barmby on the Marsh, we ensure that mathematics is an interconnected subject, and as well as discrete mathematics lessons, mathematics skills are used and applied across all areas of our Cornerstones Curriculum, enabling all children to gain 'real-life' experiences.

The Mathematics curriculum at Barmby on the Marsh is based upon the The National Curriculum in England 2014, which provides a broad framework and outlines the knowledge and skills taught in each Key Stage. Teachers plan lessons to allow progression of knowledge and skills and are differentiated carefully to ensure all children access the relevant programme of study. Regular baseline and summative assessments are carried out informatively by teachers throughout the school year, and half termly analysis is regularly carried out by subjects leaders at staff meetings to ensure the curriculum is covered and the skills/knowledge taught are progressive from year group to year group.

When teaching mathematics, as well as teaching discrete daily lessons, the teachers use the Cornerstones long term plan to enhance learning to ensure it is engaging, broad and balanced. Mathematics teaching focuses on enabling children to think critically. A variety of teaching approaches are used based on the teacher's judgement.

Mathematics provides excellent opportunities to enhance the learning of more able pupils through the investigations, analysing sources and writing extended pieces.

At Barmby on the Marsh we provide a variety of opportunities for mathematics learning inside and outside the classroom. Throughout the year we have 'Theme Days' where the children can take part in fun and engaging activities. The activities are linked to the Cornerstones topics and offer the opportunity for children across the school to work with one another as well as giving the parents the chance to engage with the school and join in with their children's learning.

IMPACT

Within mathematics, we strive to create a supportive and collaborative ethos for learning by providing investigative and enquiry based learning opportunities. Emphasis is placed on investigative learning opportunities and practice of skills, to help children gain a coherent knowledge and understanding of each unit of work covered throughout the school.

Our mathematics curriculum is high quality, well thought out and is planned to develop progression. We focus on progression of knowledge and skills and discreet vocabulary progression also form part of the units of work.

We measure the impact of our curriculum through the following methods:

- Assessing the children's understanding of topic linked vocabulary before and after the topic is taught, including making links to previous topic's work.
- Summative assessment of pupil discussions about their learning.
- Images and videos of the children's practical learning.
- Interviewing the pupils about their learning (pupil voice).
- Moderation staff meetings where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to understand their class's work.
- Marking of written work in books.
- Pupils in Year 2 and Year 6 sit the Standardised Age Tests.

Subject Leadership and Management

The subject leader's role is to empower colleagues to teach mathematics to a high standard and support staff in the following ways:

- By keeping up to date on current issues; disseminating relevant information and providing training for staff members (either directly or through other professionals).
- Leading by example by modelling lessons or styles of teaching.
- Having a knowledge of the quality of mathematics provision across the school and using this to provide a coaching and mentoring role.
- Identifying and acting on development needs of staff members.
- Monitoring expectations, provision and attainment across the school and providing feedback to develop practice further in order to raise standards.

Monitoring and Evaluation

The quality of teaching and learning is monitored through lesson observations, book scrutinies, internal moderation meetings. In addition, continuity and progression across the school is monitored by the subject leader as is the implementation and impact of Assessment for Learning. The subject action plan and external advisors identify actions intended to raise standards.

Partnerships with parents

At Barmby we aim to work in partnership with parents and carers. We do so by giving parents and carers opportunities to play an active and valued role in their child's education. Parents are informed on how they can help child at home. During Parents' Evenings curricular targets are shared and a written report is completed annually in the Summer Term. Homework in Early Years, Key Stage 1 and Lower Key Stage 2 is a choice of activity based on our Cornerstones topic.