Mathematics Policy

Intent

'A high-quality mathematics education 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.' (National Curriculum)

At All Hallows C of E Primary School, we want our children to enjoy Maths and to become curious Mathematicians who throughout their learning journey develop fluency skills, their ability to reason and express themselves using precise mathematical vocabulary and to be increasingly confident in solving problems using a range of explicitly taught heuristics.

Our mathematically intent, provides a platform for our children to understand the world and the important role that maths has in everyday life. Our children begin to see how useful and necessary it is and see that it isn't a subject in isolation.

We provide daily maths lessons and additional teaching and practice time for all children to become fluent in specific number facts and also develop reasoning skills. Leaders and teachers also consider the most important knowledge and concepts that pupils need to know and focus on these; we prioritise feedback, retrieval practice and assessment. Teaching the curriculum content in blocks, allows children to explore skills and knowledge in depth and gain a secure understanding of particular subject matter. Tasks are created to help pupils to focus on the mathematics to be learned and to also provide for overlearning. Key knowledge (KIRF) and skills are also revisited regularly allowing repetition to embed learning. A concrete, pictorial, abstract approach provides children with a clear structure in which they can develop their depth of understanding of mathematical concepts. Misconceptions are identified early, using diagnostic questioning, and corrected. We aim to ensure that mathematics is a high profile subject that children view positively and with an 'I can' attitude.

Our intention is that the majority of pupils will move through the programmes of study at broadly the same pace. We aim for each child to be confident in each yearly objective and develop their ability to use this knowledge to develop a greater depth of understanding to solve varied fluency problems as well as

problem solving and reasoning questions. Pupils who grasp concepts rapidly are challenged through GD problems. Those who are not sufficiently fluent with earlier material consolidate their understanding, through additional practice, before moving on. Final end of term assessments are made using NFER or SATs tests thus identifying the level in which the child is working.

Policy statement

The policy reflects the school values and philosophy in relation to the teaching and learning of maths. It sets out a framework within which the teaching staff can operate and gives guidance on planning, teaching and assessment.

All children have a statutory entitlement to access the programme of study for maths as set out in the National Curriculum. The National Curriculum for Mathematics aims to ensure that all pupils:

• become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop 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

• National curriculum links

https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study/national-curriculum-in-england-mathematics-programmes-of-study

Implementation

We follow the White Rose mastery-based scheme of learning to ensure coverage in Maths from Year EYFS-6. We use a mastery-based scheme of learning because mastering Maths means that the children acquire a solid understanding of concepts which allows them to move on to more advanced material. The resources are arranged into Autumn, Spring and Summer terms with each term comprising individual blocks of learning on a particular topic. We supplement the White Rose material with Classroom Secrets, NRICH, NCETM and Mastering Number resources.

EYFS also uses the Mastering Number Program which aims to secure firm foundations in the development of good number sense for all children. Years 1 and 2 also use this program in addition to their daily maths lesson. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention is given to key knowledge and understanding needed in EYFS and progression through KS1 to support success in the future. Please see the following weblink for the All Hallows C of E Primary Maths Curriculum 'implementation' section for detailed overviews:

https://all-hallows-ce-primary-school.secure-primarysite.net/maths-3/

- A whole class maths session is taught in each class every day.
- An additional fluency/reasoning is taught/practised.
- Hueristics are explicity taught within sessions.
- Diagnostic questioning (EEDI) and Flashbacks are also used periodically.
- A range of resources, including manipulatives, are used to help children in their acquisition of problem solving, reasoning and fluency skills
- Maths interventions are used to support children and to fill in gaps in their learning
- Mastering Number sessions take place in Years 1 and 2 in addition to the daily maths lesson
- Lessons use a Concrete, Pictorial and Abstract approach to guide children through their understanding of mathematical processes.
- Recaps at the beginning of lessons are used to revisit previous learning and ensure Maths skills are embedded.

Learning environment
Our aim is to create a positive environment for the teaching and learning of maths: an atmosphere of mutual respect, positive regard and safety. Children should feel that they are part of a community of people supporting each other in developing as fluent mathematicians, reasoners and problem solvers.

Resources are freely available to access as and when needed. A variety of concrete, pictoral and abstract representations should be used throughout lessons. A variety of displays, both permanent and 'working walls' (which reflect current learning) should be visible in all classrooms.

Expectations of all teachers

• Ensure the effective implementation of the National Curriculum for Mathematics.

• Adapt and use the programme of study for Mathematics across the whole school that meets the needs of all our children.

• To ensure learning is planned to enable all children to reach their full potential.

• To plan high quality maths lessons with clear learning intentions using the White Rose Maths Hub schemes of learning/ Mastering Number Program for EYFS

• To ensure that learning is retained through regular recap (10 in 10s, daily arithmetic practice, Mastering Number program additional sessions in Years 1 and 2)

Equal opportunities and special educational needs.
It is expected that all children will be given the opportunity to learn in a creative and encouraging learning environment which encompasses a range of learning and teaching styles. All children are entitled to full participation in the curriculum. It is hoped that this approach will motivate and support children's learning at all levels including the Able and Talented, EAL and children identified with a Special Educational Need (SEN).
The way in which the curriculum is delivered is covered by the Equality Act. Ensure issues are taught in a way that does not subject pupils to discrimination. In addition, what is taught in the curriculum is crucial to tackling key inequalities for pupils including gender stereotyping; preventing bullying and raising attainment for certain groups.

This policy has been written with the school's Race Equality Policy in mind. As a school we recognise that it is our responsibility to:

• Promote race good race relations

• Promote race equality

• Eliminate all unlawful hate discrimination

IMPACT

The impact of our mathematics curriculum is that pupils develop secure, deep and connected understanding of mathematical concepts through a mastery approach. Teaching follows the principles of the White Rose scheme, ensuring small-step progression, careful sequencing and opportunities for all pupils to achieve.

Children develop strong fluency in number through regular practice of key facts, including number bonds, multiplication tables and efficient calculation strategies. This secure knowledge allows pupils to focus on reasoning and problem solving.

Pupils are taught to think mathematically. They are encouraged to explain their reasoning, justify their answers and make connections between different areas of mathematics. Through the use of variation, children see concepts presented in different ways so that understanding becomes secure and flexible rather than procedural.

Problem solving is an essential part of learning. Pupils are taught heuristics such as drawing diagrams, using bar models, looking for patterns, working systematically and checking whether answers are reasonable. This helps children to become resilient learners who can approach unfamiliar problems with confidence.

Teachers use assessment to identify gaps quickly so that misconceptions can be addressed through small-step teaching and targeted support. Pupils who need additional help receive structured intervention, while pupils who grasp concepts rapidly are given opportunities to deepen their understanding through reasoning and greater depth tasks.

Work in books shows a clear progression over time, with pupils moving from concrete and pictorial representations to abstract methods. Children present their work carefully and use mathematical vocabulary accurately. They are proud of their learning and can talk about what they know and how they know it.

Pupil voice shows that children enjoy mathematics and understand that effort, practice and thinking are important. They are willing to try, make mistakes and improve, and they approach challenges with confidence.

By the time pupils leave our school, they are fluent, thoughtful and independent mathematicians who are well prepared for the demands of Key Stage 3 and beyond

Assessment and review

The assessment and recording of Mathematics is part of the overall assessment of the child and should be seen alongside all the other areas of development. Assessment in Mathematics reflects the general principles and procedures laid down in the school's assessment policy. Key elements of our Mathematic assessments include:

- Years 1, 3,4 and 5 use NFER to produce raw and scaled scores
- Years 2 and 6 use past SAT's papers
- Multiplication Tables Check Year 4
- EYFS – assess termly using Mastering Number program objectives
- White Rose End of Unit topic assessments used at the end of each topic taught (Years 1-6)

Formal written reports are provided each year and this information is shared with parents. Additionally, two other meetings are held each year with parents to discuss progress informally and share data.

Role of subject leader

The Mathematics Subject Leader will oversee the progress of the Mathematics curriculum and assist teachers in raising standards in this subject. Advice can be sought from the Mathematics Subject Leader regarding resource needs and advice on new developments/initiatives. The Subject Leader will also make other teachers aware of training opportunities.

The Governors will help to ensure the effective monitoring and implementation of the Maths policy in liaison with the Subject Leader. They provide a supportive between teaching staff and the Governing Body and help with appropriate issues.

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