

Mathematics Policy

Horwich Parish CE Primary School



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*Our vision is to be a school where everyone can achieve and "let their light shine" both individually and collectively as a community.
Learning to love each other as Jesus loved us, respecting each other and growing into the people God has called us to be.*

Contents

Section		Page
1	Introduction	3
2	Intent	3
3	Implementation	3
4	Impact	4
5	Planning and Assessment	5
6	Inclusion	6
7	The Role of the Mathematics Lead	6

1. Introduction

These days it is common to hear people say they are, 'no good at maths' or state that they, 'can't do maths!' People are far less likely to admit that they can't read or write.

At Horwich Parish C.E. Primary School we aim to foster a 'can do' attitude towards maths. If we feel we can't do it, the sentence is always followed with YET!

"I can't do it yet!"

This makes us believe we will be able to do it, we just haven't quite learnt all the skills we need to solve the problem. This growth mind-set approach towards maths helps us all to achieve more than we believe we can. Learning maths and the language of mathematics is a little like learning a foreign language. All the pieces need to connect and fit together for something to make sense as a whole. As children become fluent in the language of mathematics and become increasingly able to reason and explain their thinking mathematically, they become increasingly able to solve problems in a range of contexts, noting connections between areas of maths and proving their answers by using a wide range of mathematical thinking.

The new National Curriculum states:

"Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. 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."

2. Intent

As a whole school we are following a maths mastery approach. In brief, this means that we expect that the majority of pupils will move through their year group's curriculum at broadly the same pace. It is based on the belief that all pupils are capable of understanding and doing mathematics, given sufficient time. It is expected that children become fluent in the fundamentals of mathematics, reason mathematically and can solve problems by applying their mathematics. Those children who grasp concepts more readily than others are challenged through more complex problem solving rather than accelerated through new material. At the heart of a maths mastery approach is the use of the sequence: concrete, pictorial, abstract (CPA) to aid children's understanding.

3. Implementation

All classes have adopted the White Rose Schemes of learning – the structure of the scheme comprises: yearly overview, termly overview, small steps overview (varied fluency, reasoning & problem solving)

The White Rose Schemes of learning are supplemented by resources from NCETM, Third Space Learning, Collins etc.

The White Rose scheme places great emphasis on an "everyone can" approach to maths and uses manipulatives

(concrete resources such as counters, dienes, numicon etc.) alongside visual images (in particular the bar model) to support learning.

4. Impact

At Horwich Parish CE school there is a unified whole school maths mastery approach where almost all of the children are exposed to the same curriculum content at the same pace. This will result in narrowing attainment gaps whilst the attainment of all is raised. The pupils at Horwich Parish CE school will develop into confident mathematicians with mathematical understanding based on solid foundations.

At Horwich Parish C.E. Primary School the teaching of maths is geared towards enabling each child to develop their learning and achieve their full potential. We endeavour to not only develop the mathematics skills and understanding required for later life, but also to foster an enthusiasm and fascination about maths itself. We aim to increase pupil confidence in maths so they are able to express themselves and their ideas using the language of maths with assurance. We want the children to see mathematics as being relevant to their world and applicable to everyday life as well as being something that they will need as they move on through their school life and ultimately to the world of employment.

Our aim is to ensure that all children:

- Become **FLUENT**
- **REASON** and **EXPLAIN** mathematically
- Can **SOLVE PROBLEMS**

Children need to be regularly exposed to increasingly complex problems to solve, which allow them to apply their maths knowledge. In doing so they are encouraged to develop an argument and line of enquiry which they can prove and justify using mathematical vocabulary. This includes the ability to break down problems, both routine and non-routine, into a series of steps.

At Horwich Parish C.E. Primary School we teach maths in a way that:

- Creates a lively, exciting and stimulating environment in which the children can learn maths.
- Promotes the concept that acquiring maths knowledge and skills provides the foundation for understanding the world around the children.
- Develops mental strategies.
- Encourages children to use mathematical vocabulary to reason and explain.
- Allows time for partner talk in order to stimulate and develop a curiosity for maths.
- Challenges children to stretch themselves and take risks in their learning.
- Creates a sense of awe and wonder surrounding maths.
- Ensures children in Key Stage 1 are secure in their understanding of number and number relationships.
- Delivers maths in line with new National Curriculum guidelines.

We use a variety of curriculum resources, including the National Curriculum Programmes of Study, White Rose Maths Hub schemes of learning, Nrich, Thirdspace Learning and NCETM (National Centre for Excellence in the Teaching of Mathematics) resources which ensure continuity and progression in the teaching of mathematics.

Our Calculation Policy details methods used to teach calculation and progression in addition, subtraction, multiplication and division – this can be found on the school website along with the Multiplication Tables Policy.

It is important that children are allowed to explore maths and present their findings not only in a written form but also visually; to that end the school will adopt the 'CPA approach': concrete, pictorial, abstract. This will allow the children to experience the physical aspects of maths before finding a way to present their findings and understandings in a visual form before relying on the abstract numbers. There are manipulatives available in every classroom to help facilitate this process.

The curriculum is delivered by class teachers. Children are taught in class groups from Foundation Stage to Year 6. In all classes children are taught in a variety of groupings (whole class, groups, pairs, one to one) relevant to the task in hand and work is differentiated in order to make it accessible and challenging. Where appropriate groups/individual children are supported by Teaching Assistants. In line with the new curriculum, the school is using a mastery approach to teaching which has been customised to meet the needs of our children.

Staff are kept up to date on current thinking, new teaching methodologies and ideas by the subject leaders through staff meetings and inset. CPD will be available where possible for staff who need to improve their understanding of the requirements of the new national curriculum, new methodologies and assessment/testing arrangements.

5. Planning and Assessment

Teachers plan and deliver lessons that suit the individual learning styles of the children within the group. They use their professional judgement and use of formative assessment to ensure a flexible approach is adopted which recognises the need for pace of learning within the classroom. Children are given the opportunity to engage in fluency, reasoning and problem-solving activities on a daily basis to demonstrate their understanding.

In order to inform planning and to assess children's progress, teachers will carry out a range of summative and formative assessments and keep a record of the achievement of the end of year objectives.

Children are provided with feedback either verbally or through written marking in line with the school's marking policy. Intervention takes place during lessons enabling all children to make progress. Sometimes, in order to clarify understanding of a concept, children will be asked to respond to feedback, this is completed by the children at the beginning of the next lesson.

6. Inclusion

In line with the School's Inclusion Policy each child has an equal entitlement to all aspects of the Maths curriculum and to experience the full range of Maths activities. Therefore, in delivering Maths, care will be taken to ensure that all learning needs are met to ensure all children keep up with the learning and catch-up needs are also met.

Intervention groups will take place both within the Maths lesson and outside of it. These sessions may be delivered by the teacher or teaching assistant and may involve individual or small group work and may include extending the most able mathematicians as well as supporting learners who require additional practise of skills.

7. The Role of the Mathematics Lead

The role of the Mathematics Lead is to:

- Prioritise improvements for the teaching and learning of mathematics across the school and contribute to the school improvement plan, in consultation with the Headteacher and Governing Body, driving forward the improvement of mathematics teaching and progress and achievement of learners.
- Track the progress of identified groups of children and be involved in a thorough evaluation of Mathematics looking at trends over time, value added from baseline predictions to end of Key Stage Assessment results and report findings to the Headteacher and Governing Body Learning and Achievement Committee.
- Audit provision for mathematics across the school in terms of teaching and learning, resources, standards on a regular basis.
- Lead regular insets and CPD activities to support staff in developing areas of mathematics where they feel less confident.
- Support teachers and learners in delivery of the 'hard to teach, hard to learn' areas of mathematics.
- Read widely around pedagogy relating to the learning and teaching of mathematics.
- Provide 'expertise' to assist staff in the delivery of the curriculum.
- Know and understand how children become numerate and communicative.
- Keep updated in Mathematical developments through appropriate in-service training.
- Evaluate on a regular basis the policy and scheme of work to ensure they form the basis of practice of Mathematics within the school.
- Provide support for ECTs and Teaching Students in Mathematics.
- Ensure that appropriate resources are available to ensure children are able to learn with a hands-on concrete approach.
- Attend half-termly cluster Subject Leader meetings.