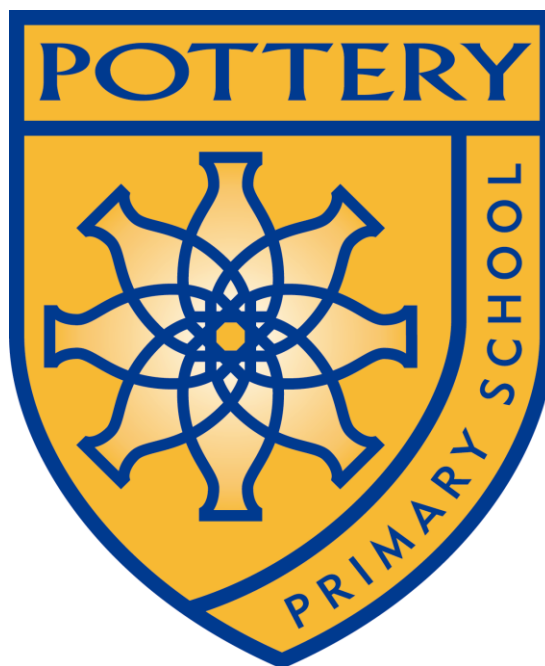


Mathematics Policy



Updated January 2023
Written by L Buxton

Mathematics Policy

Introduction

This document is for the information of staff, governors, parents and all those concerned with the learning and welfare of the children at Pottery Primary School.

It is the responsibility of all staff and governors to ensure that the agreed policy is understood by all and implemented by those concerned.

Mathematics is a core subject in the National Curriculum. This policy outlines the purpose, nature and management of the mathematics taught in our school.

Policy statement

This document is a statement of aims, principles and strategies for the teaching and learning of mathematics at Pottery Primary School. It has been compiled to maintain equal opportunities and ensure continuity and progression in the teaching of mathematics.

Aims and objectives of mathematics

Mathematics provides a way of viewing and making sense of the real world. Mathematics can be used to describe, to illustrate, to interpret, to predict and to explain information from the world around us. At Pottery Primary School, we use the mastery approach to Mathematics in conjunction with the Primary Ark Curriculum Plus bank of teaching and learning resources to fully immerse the children in a world of mathematics.

What is mastery?

There are generally four ways in which the term mastery is used in the current debate about raising standards in mathematics:

1. A mastery approach;
2. A mastery curriculum;
3. Teaching for Mastery;
4. Achieving mastery of particular topics and areas of mathematics.

1. A mastery approach:

This is a set of principles and beliefs. This includes a belief that **all** pupils are capable of understanding and doing mathematics, given sufficient time. Pupils are neither 'born with the maths gene' nor 'just no good at maths'. With good teaching, appropriate resources, effort and a 'can do' attitude **all** children can achieve in and enjoy mathematics.

2. A mastery curriculum:

This is one set of mathematical concepts and big ideas for **all**. **All** pupils need access to these concepts and ideas and to the rich connections between them. There is no such thing as 'lower attaining mathematicians' or 'gifted and talented mathematicians'. Mathematics is simply mathematics and the key ideas and building blocks are important for everyone.

3. Teaching for mastery:

This is a set of pedagogic practices that keep the class working together on the same topic, whilst at the same time addressing the need for **all** pupils to master the curriculum and for some to gain greater depth of proficiency and understanding. Challenge is provided by going deeper rather than accelerating into new mathematical content. Teaching is focused, rigorous and thorough, to ensure that learning is sufficiently embedded and sustainable over time. Long term gaps in learning are prevented through speedy teacher intervention. More time is spent on teaching topics to allow for the development of depth and sufficient practice to embed learning. Carefully crafted lesson design provides a scaffolded, conceptual journey through the mathematics, engaging pupils in reasoning and the development of mathematical thinking.

4. Achieving mastery of particular topics and areas of mathematics:

Mastery is not just being able to memorise key facts and procedures and answer test questions accurately and quickly. It involves knowing 'why' as well as knowing 'that' and knowing 'how'. It means being able to use one's knowledge appropriately, flexibly and creatively and to apply it in new and unfamiliar situations. The materials provided seek to exemplify the types of skills, knowledge and understanding necessary for pupils to make good and sustainable progress in mastering the primary mathematics curriculum.

What does this look like at Pottery?

Our Maths follows the outline below:

- The whole class moves through topics at broadly the same pace with support where necessary. This ensures that all children can master concepts and those who are more able can deepen their understanding.
- Children are given the opportunity on a regular basis to apply their understanding to a variety of real-world problems.
- Teaching maths for mastery offers all pupils access to the full maths curriculum. This inclusive approach, and its emphasis on promoting multiple methods of solving a problem, builds self-confidence and resilience in pupils. We create a safe environment where pupils can make mistakes and are encouraged to have a go. Mistakes are celebrated and used as a means to learning.
- Though the whole class goes through the same content at the same pace, there is still plenty of opportunity for differentiation through speedy intervention. Those pupils who grasp concepts quickly are challenged with rich and sophisticated problems within the topic. Those children who are not sufficiently fluent are provided additional support to consolidate their understanding before moving on.

Organisation within the curriculum

Work and activities in all classrooms reflect an imaginative, purposeful, confident and creative use of Mathematics across the curriculum.

Teachers plan from the National Curriculum with the support of the Primary Ark Curriculum Plus resource bank, which gives clear guidance on the progression children are expected to

make through both key stages. We have our own calculation policies which show clear progression for addition, subtraction, multiplication and division teaching.

Challenging opportunities are provided for pupils, depending upon their age and ability, to work in a variety of ways, which include:

- Individual and group work
- Practical, investigational and problem-solving activities
- Oral, written and mental work (this includes assertive mentoring maths skills and daily fluency work)
- Using books, computers, mathematical and other instruments as a resource.
- Using the outside environment as a base for learning
- Regular testing of number bonds and multiplication facts.

Teaching Assistants often support mathematics lessons under the direction of the class teacher. Some teaching assistants with the necessary qualification and training are used in a timely manner to support with intervention work although this is not solely lead by teaching assistants alone and can often be lead by teachers themselves.

The support of all parents / guardians is welcomed in helping their child/ren to achieve specific targets in mathematics e.g. learning number facts, practical activities such as baking and shopping at home, or with activities in and around the home.

Children's progress is shared openly with them throughout each academic year. Children are aware of their past, current and, often, future learning and are encouraged to see how each element of the curriculum is connected. (e.g. referring back to prior learning with division when learning about fractions, noticing the connection between addition and multiplication etc)

Foundation Stage

Through practical activities, children become familiar with sorting, matching, ordering, sequencing, patterns and counting concepts, which form the basis of early mathematics. As they use their developing mathematical understanding to solve problems, children are helped to use the vocabulary of mathematics, identifying objects by shape, position, size, volume and number. Children are taught the concept of time looking at daily routines and the days of the week. Songs, games and picture books help children become aware of number sequences. Children are taught how to use simple mathematical operations such as addition and subtraction. A variety of resources are used including Numicon and Cuisenaire.

Homework

It is school policy to set homework activities for mathematics. See Homework Policy for more details.

Links with computing

Whenever appropriate, children will use information technology in their mathematics work. This may involve the use of:

- Digital scales
- Spring balance
- Stop watches and clocks
- Calculators
- Computers and ipads

Assessment and record keeping

Evaluation will be carried out by assessment through observation, talk and product, and effective record keeping. Staff use weekly PPA time to reflect, plan and moderate with year group colleagues to ensure appropriate delivery and progress. Teachers input assessment data termly and this is analysed at class teacher level and by the senior leadership team to inform action plans and support in order that all children achieve their potential.

Assessment opportunities are identified at the planning stage.

The Role of the Mathematics Subject Leader

All teachers are responsible for ensuring that they deliver the appropriate areas of the National Curriculum to their pupils and that they assess each child's progress in mathematics.

The Subject Leaders will:

- Audit teacher's planning in mathematics against pupil data, pupil work and discussion with pupils to ensure progression and mastery of the subject.
- Report back to the staff by:
 - Discussing planning and pupil work with individual members of staff.
 - Discussing any issues raised with year group colleagues and /or at staff meetings.
 - Discussing tracking data anomalies with teachers who will have already analysed their group data.
- Assist Year 2 and Year 6 staff with making formal assessments at the end of a Key Stage if necessary.
- Be available to advise / help with any mathematics planning / assessments made by members of staff.
- Where possible, be made available to team-teach an area of the mathematics curriculum where a member of staff feels they would like support.
- Provide opportunities for internal moderation of mathematics work.
- Monitor and evaluate the teaching of mathematics.
- Attend relevant in-service training courses arranged by L.A. and be responsible for disseminating relevant information to the teaching / non-teaching staff.
- Plan and deliver in-service mathematics development training to staff as is necessary.
- Take a regular audit of resources and order what is required as soon as possible thereafter within the given budget.

- Contribute to the school improvement plan by having a clear analysis of pupil group data and having a clear idea of the needs of staff.

Special Educational Needs

All teachers have the responsibility for meeting the needs of children with Special Educational Needs (SEN).

For pupils who may need the provision, suitably matched material will be provided to enable them to progress and demonstrate achievement. Such material will be presented in contexts suitable to the pupil's age/ability. Where possible, we will endeavour to provide those pupils who have special needs with additional adult support.

Appropriate provision will be made for pupils who need to use:

- Means of communication other than speech;
- Non-sighted methods of reading;
- Technological aids in practical and written work.

It is envisaged that, as children with SEN find themselves included in and undertaking the same activities as their peers in part of the daily Mathematics lesson, self esteem will be fostered and enhanced.

Equal Opportunities

Every effort is made to ensure that activities are as equally interesting and accessible to both boys and girls. Teachers strive to avoid any bias according to a child's sex, ethnic origin, disability or social background in accordance with procedures outlined by Derbyshire County Council.

Health and Safety

The school's Health and Safety policy must be consulted for details regarding use of scissors, use of tools and use of wet areas.

Review

The Head teacher and staff will review this policy regularly. Any amendments will be presented to the Governing Body.

This policy will be reviewed regularly by the board of governors.

L Buxton

Mathematics Subject Leader

January 2023

Abbreviations:

LA Local Authority

AHT Assistant Head teacher

PPA Planning, preparation and assessment