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**Maths Policy**  
**Manor Primary School**

### **INTRODUCTION**

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. (National Curriculum 2014)

This policy outlines the teaching and learning of mathematics at Manor Primary School which is based on the 2014 National Curriculum. It has the full agreement of the Governing body who approved it. The implementation of this policy is the responsibility of all the teaching staff.

#### **Our Intent:**

For every child to recognise the importance of maths in the wider world, where they are able to use their mathematical skills and knowledge confidently in a range of different contexts; to enjoy maths with the ability to reason mathematically and solve problems in order to access the curriculum and life beyond school.

#### **Implementation**

Sequencing of lessons is well thought out. Teaching is underpinned by careful curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge using the White Rose resources. Effective questioning is used to test conceptual and procedural knowledge and to assess children regularly to identify those requiring intervention. Children's explanations and their proficiency in articulating mathematical reasoning, with the precise use of mathematical vocabulary, are supported through the use of reasoning questions provided by the teacher.

### **AIMS**

The Programmes of Study from the White Rose Scheme and the National Curriculum for Mathematics aims to ensure that all pupils at Manor Infant/Longbridge will:

- 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 are able to recall and apply their knowledge rapidly and accurately to problems
- **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

The National Curriculum sets out year-by-year programmes of study for Key Stages 1 and 2. This ensures continuity and progression in the teaching of mathematics.

The EYFS Statutory Framework sets standards for the learning, development and care of pupils from birth to five years old and supports an integrated approach to early learning.

This is supported by the 'Development Matters' non statutory guidance as well as the White Rose Medium Term plans for EYFS Mathematics.

The EYFS Framework in relation to mathematics aims for our pupils to:

- develop and improve their skills in counting
- understand and use numbers
- calculate simple addition and subtraction problems
- describe shapes, spaces, and measures

## **TEACHING AND LEARNING**

The curriculum will be delivered in both discrete lessons and through other subject areas where appropriate.

Teachers should teach maths every day through a discrete maths lesson, generally lasting between 45 and 60 minutes. This time will vary according to age group. However, where appropriate, some maths lessons may be taught in a cross curricular manner. This may either be in addition to the children's daily lesson or occasionally it may replace it.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems (greater depth/mastery) before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding through additional practice, before moving on.

Lessons should:

- aim to provide a stimulating and exciting learning environment that takes account of different learning styles and uses appropriate resources to maximise teaching and

learning. In each classroom there will be a maths display board with key information, children's mathematical recording and ideas and key vocabulary, which will be added to on a week by week basis each term.

- provide opportunities to practice mental calculation and for children to orally explain their methods and strategies – Encourage the use of the 'Maths Talk' prompts
- have a clear focus; children should be aware of the lesson objective(s) and the steps to success
- be interactive and incorporate all learning styles
- include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work
- include a plenary which involves work with the whole class to, address misconceptions; identify progress; summarise key facts and ideas and what to remember; to make links to other work and to discuss next steps.
- be enjoyable and relevant
- pupils should be given opportunities to develop their skills, reasoning and problem-solving abilities

Pupils engage in:

- Problem solving
- Reasoning activities
- Practical work
- Investigational work
- Mathematical discussion
- The development of mental strategies
- Written methods
- Consolidation of basic skills and routines
- Appropriate computer work

## **PLANNING**

- Lessons are planned weekly. Lesson design should link to prior learning to ensure that all can access the new learning and identifies carefully sequenced steps in progression to build secure understanding.
- Examples, representations and models need to be carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics.
- Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other.
- It is recognised that practice is a vital part of learning, but the practice must be designed to both reinforce pupils' procedural fluency and develop their conceptual understanding.
- Weekly plans are saved on the school server.

Work in mathematics will be sufficiently differentiated to enable all children to make effective progress. As the majority of pupils will be moving through the curriculum at the same pace, it is expected that planning will show:

- Children being supported to access the programme of study through adult support or appropriate resourcing
- Provision for those with exceptional Special Educational Needs
- Provision for EAL learners
- Opportunities for children to develop their reasoning and problem-solving abilities
- Use of ICT and other resources
- In all cases, the element of challenge

### **Equal Opportunities**

- Positive attitudes towards mathematics are encouraged, so that all pupils, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with mathematics. This policy is in line with the school's 'Racial Equality' policy.
- The aim is to ensure that everyone makes progress and gains positively from lessons and to plan inclusive lessons. Lessons involving lots of visual, aural and kinaesthetic elements will benefit all pupils including those for whom English is an additional language.
- Differentiated questions are used in lessons to help pupils and planned support from teaching assistants and other adults.

### **HOMEWORK**

This will be set in accordance with the Homework Policy. Homework for mathematics will be set at teacher's discretion. The class teacher will decide when the homework is set and when it should be collected in. Online homework opportunities are provided on MyMaths for children to complete.

### **ASSESSMENT**

At Manor Primary School we are continually assessing our pupils and recording their progress.

We see assessment as an integral part of the teaching process and endeavour to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring progress.

Assessment will take place at three connected levels: short term, medium term and long term. These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment.

Short Term Assessment will be an informal part of every lesson to check understanding and to give the teacher information, which will help to adjust day to day lesson plans. Teachers will mark children's work, addressing misconceptions and giving next steps as appropriate. Pupils will be expected to respond to marking.

Medium Term Assessment will take place six times a year in the form of data submission, and/ or work scrutinies. Progress of children will be tracked using the appropriate Year Group objectives.

Class teachers will identify children who are working below their expected progress and set up appropriate intervention.

Long Term Assessments will take place towards the end of the school year to assess and review pupils' progress and attainment. These will be made through compulsory National Curriculum Mathematics test for pupils in Year 2 and 6 and supplemented by PiXL tests for Years 1, 3, 4 and 5.

Teachers will also draw upon their class upon individual NC objective records and supplementary notes and knowledge about their class to produce a summative record i.e. end of year report. This report will then be given to parents and key points discussed with the child's next teacher.

Self-Assessment - where possible, children should be involved in assessing their own work.

### **MARKING**

Work is marked regularly using the schools 'Marking Policy' and pupils are given clear guidance on how to improve either verbally or in written format. There should be evidence that the children are given time to work on their next steps.

### **SPECIAL EDUCATION NEEDS**

Children who require additional support are identified on both the year groups' provision maps and the teachers' maths plans. Needs for these children are met through adapted activities and adult support when appropriate. This can take place both during the maths lesson and through an additional intervention. Where possible, all children will access the relevant year group lessons, with support.

### **RESOURCES**

There are a range of resources to support the teaching of mathematics across the school. All classrooms have working walls; access to a wide range of appropriate apparatus and additional equipment is stored in the mathematics resource area.

A range of software is available to support maths work e.g. MyMaths. Teachers are encouraged to use materials from the nrich and NCETM websites.

### **MONITORING AND EVALUATION**

Monitoring of the standards of children's work and of quality of teaching in mathematics is the responsibility of the SLT, supported by the subject leaders, team leaders and governors.

### **PARENTAL INVOLVEMENT**

Once a year, parents will be invited to attend a maths curriculum presentation, explaining the progression of the formal written methods, explaining how maths teaching is delivered in the school and new developments in the subject. Maths experience weeks are planned for parents to come in and observe lessons.

### **MANAGEMENT OF MATHEMATICS**

#### **Role of the Subject Leader:**

- Ensure teachers are familiar with the Framework and help them to plan lessons.
- Lead by example in the way they teach in their own classroom.
- Teach demonstration lessons.
- Prepare, organise and lead INSET.
- Guide and direct teachers in the use of the framework.
- Monitor standards in Maths across the school through classroom observation, work scrutiny, teacher's planning, discussion with pupils and data analysis.
- Work co-operatively with the SENCO.
- Observe colleagues in all Key Stages with a view to identifying the support they need.
- Manage the financial allocation to Maths effectively and purchase and organise all resources, ensuring they are readily available and well maintained.
- Attend courses provided by Borough numeracy advisors and be aware of national developments in mathematics.
- Further parental involvement and knowledge, by facilitating support and advice through workshops and disseminating relevant information.
- Discuss regularly with the Headteacher and the maths governor the progress of implementing the Strategy in the school.
- Provide the Governing Body with an overview of progress, standards and achievement.

#### **GOVERNORS**

- Governors will monitor the implementation of the maths policy through its Curriculum Committee receiving regular reports on the curriculum from the school's senior leadership team. Link governor visits will also include maths lessons as part of their visits.

#### **SPIRITUAL, MORAL, SOCIAL AND CULTURAL ASPECTS**

There are many opportunities to develop a sense of wonder in mathematics, e.g. in structure and patterns of shape and number, in concepts such as probability and infinity. Teaching also emphasises that the mathematics we know and use today is the result of human activity over a very long time and in many diverse cultures across the world. All planning/teaching must contain an aspect of SMSC.

***To be reviewed Summer 2024***