

# Moreland Primary School



## Mathematics Policy

## **Moreland Primary School - Mathematics Policy**

### **Intent**

- To have high expectations of all of our children, whose ages range from 0-11 years old, in order to raise and maintain attainment and achievement. This includes encouraging children to develop self-confidence and take pleasure in their mathematical experiences.
- To enable children to appreciate the power of mathematics and have a sense of fun and curiosity about the subject.
- To allow all children equal access to maths regardless of gender, ability, creed, or ethnic origin and encourage children to share their mathematical knowledge from their diverse cultural backgrounds.
- To recognise that the maths curriculum provides children with one of the basic tools for life, thus enabling them to cope with mathematics in the real world.
- To ensure coverage of the National Curriculum and the Early Years Foundation Stage Curriculum.
- To teach mathematics daily as required according to the National Curriculum, with the key recommendations being:
  - ❖ Problem solving being the basis of all teaching.
  - ❖ An increase in the teaching of mental calculation strategies encouraging fluency.
  - ❖ An increase in the teaching of formal written methods of calculation encouraging fluency.

### **Early Years**

In the Early Years, children are supported in developing their understanding of mathematical development which is made up of: Numbers and Shape, Space and Measures.

They are given opportunities to develop mathematical understanding through stories, songs, games, their environment and imaginative play. Children are encouraged to discover new mathematical vocabulary and ideas and opportunities are given for children to use the indoor and outdoor environment (see Early Years curriculum) to develop and embed mathematical understanding.

In Reception, we follow Mastering Number (NCETM) to cover Number and White Rose Maths scheme to cover Shape, Space and Measures. This ensures that children develop firm mathematical foundations and ensures clear progression into Key Stage 1. In Nursery, we follow White Rose Maths to ensure full coverage and progression into Reception.

Assessment in the Foundation Stage is ongoing throughout the year. At the end of Reception, children are assessed against the Foundation Stage Profile.

### **Equal Opportunities**

All staff should ensure that children have equal opportunity to succeed in maths. We should ensure that the resource materials we use represent images, which would be motivating to all children. Classroom presentation and organisation should represent the achievements of children of all abilities.

We provide opportunities for 'real life' maths such as learning about successful mathematicians, cross-curricular learning and trips.

We ensure that there is equal representation of the achievements of different races, cultures and genders for example representing women's achievements in maths. We ensure the names used in word problems and images used on worksheets/slides represent both men and women and different races so that children can 'see' themselves as mathematicians.

### **Planning and coverage**

Moreland's mathematics curriculum strongly supports all aspects of the National curriculum including the Early Years Curriculum and we work constantly to implement them. The White Rose Maths scheme and Mastering Number guarantees coverage and provides both medium and long term plans across every year group.

### **Medium Term Planning**

White Rose Maths provides detailed help with planning, teaching and assessment within their schemes of learning. It supports the development of medium term planning of teaching sequences that build learning over time. Each year of Nursery, Reception, Key Stage 1 and 2 is structured around units of learning, with each unit drawing on the main mathematical strands. Teachers are encouraged to adapt the main scheme of learning where appropriate to suit the needs of their class. For example, teachers may add more fluency opportunities if they feel that their class need more practice.

### **Maths Coverage**

Teachers follow the White Rose Maths scheme long term planning from the website. Regular book looks are conducted by the Maths Co-ordinator to monitor coverage and support is provided to teachers where needed.

Teachers in Reception, Year 1 and 2 follow the long term planning from Mastering Number to ensure children gain fluency in calculation and a confidence and flexibility with number.

### **Monitoring Plans**

The Head Teacher and Maths Co-ordinator will monitor lessons and books to ensure that there is adequate coverage in each class. This enables

### **Time**

Each teacher should teach a daily maths lesson. In Key Stage 1 a typical maths lesson lasts 55 minutes, whilst at Key Stage 2 this will rise to one hour and 15 minutes. The start of every lesson includes a 'Flashback Four' which consists of arithmetic questions to aid rapid recall and fluency as well as a linked word problem. This should take no longer than 10 minutes.

Three times a week, years 3-6 complete a paper version of Times tables Rockstars to develop multiplication facts recall. Children are then encouraged to practise these skills at home as part of their homework.

Lessons should include opportunities to sharpen mental arithmetical skills, practise calculations and problem solving. Maths should also be taught as part of other subjects, such as geography and science, to make it meaningful to children.

In Year 1 and 2, Mastering Number is taught for 10-15 minutes 4 times a week. This is to the whole class and is on top of the regular Maths lesson.

### **Groups**

At Moreland we use a combination of whole class teaching, group work and independent exploration. When setting work for groups and individuals we will ensure the work is suitable with deeper problem solving activities for higher attaining children and adequate support for struggling children.

In a typical Maths lesson, you would expect to see:

- Children working independently; either using manipulatives or working through workbooks that are designed to build speed and fluency and to deepen their understanding with carefully designed procedural variations and problem solving challenge
- Higher attaining children being challenged with complex, non-routine problems
- Teachers and Learning Support Staff targeting groups of children or individuals who require more support, both during the lesson and in Rapid Intervention sessions held later in the day

Booster classes are held for selected children.

### **Display**

Each classroom should have a display in the maths area, which should be up-to-date with the current unit and encourage children to experiment with mathematical concepts. Mathematical vocabulary must form part of these displays. The display should be a 'working' wall to allow children to use them as part of their learning.

### **Teaching Strategies**

At Moreland we recognise that there is no one method of teaching maths. We believe that for children to receive a varied mathematical curriculum, we will use a broad and balanced teaching approach. This will include the following methods: whole class, individual and group work (a group being defined as two or more children), mental, practical, written and oral work. Problem solving is at the heart of all lessons. At Moreland, we use the concrete-pictorial-abstract (CPA) Singapore method of maths.

At all times the teaching should be purposeful. This will take into account:

1. Whole class lessons, with mostly direct teaching in each of the three clearly defined areas of the lesson.

2. Having a clear focus for each lesson, where the learning objectives are shared with the children.
3. Ensuring the lessons maintain good and appropriate pace but allowing sufficient time for children to absorb and understand concepts.
4. Linking work to children's existing knowledge and making maths purposeful, interesting and fun.
5. Using a range of teaching strategies.
6. Mathematical discussion including questioning and explaining between the teacher and the children as well as among the children themselves.
7. The use of correct mathematical vocabulary by the teacher, to refine the children's mathematical language.
8. Giving children time to discuss their work and develop their own strategies and methods of computation, and be able to verbalise as well as record their strategies.
9. Giving feedback to pupils on how they are progressing and what they need to do to improve, in accordance with the marking policy.
10. Making use of manipulatives like cubes and base ten apparatus to help children to understand new concepts.

At Moreland, we follow a monitoring cycle whereby the Maths Co-ordinator or other member of the Senior Leadership Team will observe each teacher teaching maths at least once in the school year. The Maths Co-ordinator will monitor teaching and learning in maths each term through learning walks and book looks.

### **Provision for SEN and More Able**

Teachers will adapt their lessons to cater for the needs of all pupils in their class. They will use a range of adaptive teaching strategies such as worked and faded examples, manipulatives, adult support, appropriate challenges and mixed ability groupings to ensure all children are able to meet the lesson objectives. Teachers will work with the SENCO, More Able Lead and Teaching Assistants to ensure that the children are supported in the best ways for them.

We have high expectations of every child at our school and are committed to closing the attainment gap and ensuring that no child is left behind. As such, our expectation is that the large majority of pupils will progress 'through the programmes of study at broadly the same pace' (Ofsted Handbook, September 2015).

### **Assessment**

We recognise assessment as a channel of constantly informing our planning, in addition to noting the achievements of the children in our school. Therefore, our assessments are both formative and summative. Effective assessment will be achieved by:

1. Marking of written work and formal tasks (adult marking or self-assessment).
2. Teacher and TA observations whilst children are engaged in activities.

3. On-the-spot comments by the teacher or TA to a group or individual to extend, limit or change direction of the given task.
4. Deeper questioning of a child, group or class to whether children have mastered topics.
5. Children are assessed against key objectives - this is ongoing.

### **Formative Assessments**

Teachers assess the children on an ongoing basis through the use of questioning, marking, talk partners and using mini whiteboards.

### **Summative Assessments**

All year groups complete the White Rose Maths end of term tests and these are marked and recorded by the class teacher. Teachers then input summative assessment data on to our school tracking system each term.

### **Resources**

Each classroom has a supply of mathematical resources, some of which are differentiated by year group. The resources should be accessible to the children. Each teacher should be aware of the resources in their room and keep them well organised and labelled in a clearly defined area. Children should be encouraged to be responsible for, and make careful use of all equipment. Some specific equipment (e.g. scales, clocks, money) is stored in a central location in the large stock room.

### **Information and Communication Technology**

ICT includes the use of computers and iPads as well as audio-visual aids (audio tapes, video/TV broadcasts) and calculators. We recognise the importance of using such resources well. We endeavour to use ICT to support the teaching and learning of all the strands of the maths curriculum where appropriate. Interactive whiteboards are used in all classrooms where children can engage in interactive activities to support the lesson objective. Teachers ensure that computers and iPads are used in a constructive way in maths lessons.

### **Homework**

Maths homework is a feature of the schools' commitment towards raising standards further.

Key Stage 2 classes use the Atom Prime website to set homework that is linked to the current maths focus. Parents are supported wherever possible in order to fully participate in helping their child at home. We carefully track the frequency of children returning homework and discuss concerns with parents.

Towards the end of Key Stage 2 there would be an increase in the content of the maths homework set to prepare the children for secondary school.

Children in Key Stage 2 are encouraged to engage with Times Tables Rockstars regularly as this is proven to increase children's speed and ability with Times Tables facts. To encourage children with this, those who make the most progress and those who are top of the Leader Board are awarded certificates and stickers in Celebration assemblies.

Children in Key Stage 1 are encouraged to engage with NumBots to improve their fluency of key number facts such as number bonds to 10 and 100.

### **Parental Involvement**

We recognise the contribution and support that parents can provide to encourage learning and understanding in maths work. The mathematics in everyday tasks should be made explicit, so that parents can recognise their own invaluable contributions. We aim to keep parents informed of maths work at Moreland and how they can support their children in maths work at home.

Regular parents' meetings will inform parents of their child's progress in maths. Annual reports to parents will continue to provide an overview of their child's progress.

**Reviewed by Surinder Kimyani - November 2020, September 2021, October 2022**

**Reviewed by Catherine Lawrence - October 2023**

**Reviewed by Lucy Milner (Maths Co-ordinator) - January 2024, July 2024**