

Mathematics Policy

Norman Street Primary School



Approved by Governors:

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Mathematics Policy

THE NATURE OF MATHEMATICS

“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.”

(The National Curriculum for Mathematics 2014)

At Norman Street Primary School, we believe that Mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. It also provides the materials and means for creating new imaginative worlds to explore.

Using the Programmes of Study from White Rose Maths we aim to develop:

- An enjoyment and curiosity of mathematics and for children to feel confident to become successful;
- Children’s abilities to use and apply mathematics to solve problems in both the classroom in and in ‘real life’ contexts;
- A confidence to communicate ideas in written form and orally;
- Independent and collaborative ways of working, encouraging children to share ideas and solve problems together;
- A wide range of mathematical vocabulary to be modelled and used in the classroom environment;
- The children’s ability to recall mental facts accurately and quickly using effective written calculation methods;
- Children’s logical thinking, reasoning and ability to problem solve as transferable life skills.

Teaching and Learning

Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics subject leader. There is a daily mathematics lesson between 45 and 60 minutes in length. A typical lesson involves all classes doing a session of fluency work based around key skills followed by work based upon the White Rose Programme of Study which focuses on core topics to build a deep understanding leading to mastery.

During these lessons children engage in:

- The development of mental strategies
- Written methods
- Practical work
- Investigational work
- Problem solving
- Mathematical discussion using precise mathematical language
- Consolidation of basic skills and routines
- Reasoning and explanation of their understanding.

EYFS teachers ensure the children learn through a mixture of adult led activities and child-initiated activities both inside and outside of the classroom. Areas of provision within the classroom support maths, ensuring children are able to access throughout the day to practice and develop skills being taught. In addition, consistent, daily maths lessons take the form of direct teaching, which is followed up by enhanced activities place in areas of provision in the classroom which may be accessed independently or supported by an adult.

Children's Records of Work

The majority of work throughout the school is recording on iPads using a variety of techniques. Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording. Children are supported to use mental strategies where appropriate before resorting to a written method. All children are encouraged to work tidily and neatly when recording their work. When using squares one square should be used for each digit.

With iPads in most classes across the school the majority of work will be recorded on the iPads using books designed around the White Rose resources but also bringing in other resources where appropriate. Recording in the maths. Some work however may still be appropriate to do in exercise books so in Year 1 to Year 3, 1cm square exercise books are to be used. This changes to 7mm square A4 exercise books in Year 4 through to Year 6.

Recording on the iPads may take different forms dependant on the activity and task – some examples might be written answers and working out, dictating some activities or voice recording explanations or uploading images of work done using concrete or pictorial resources.

EYFS record informally within the setting. For example:- on the playground – on whiteboards – using jigsaws – physically ordering numbers. Staff in Foundation use photos to ensure records of each child's achievements are maintained. Some work will be recorded in books where

appropriate. Some evidence will be uploaded to Tapestry and as the iPad use becomes more common there will be more evidence on the iPads.

The standard of work on the iPads is expected to be the same quality as it would be in physical books. To this end we are ensuring that pupils have access to styluses that encourage efficient number formation.

Planning

The White Rose Maths single year group plans, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long term planning for mathematics taught in the school. These are linked directly with the National Curriculum for Mathematics and a document linking the strands clearly is available in the guidance.

Years 1-6 use the White Rose Planning as its medium term planning. This provides a detailed structured curriculum which is mapped out across all phases, ensuring continuity and supporting transition. There is some adaptation where appropriate in Year 2 and 6 where it may be necessary to adjust the planning around yearly national assessments.

EYFS planning is based on Development Matters and the Early Learning Goals (Number, Shape Space & Measure).

Short term planning is adapted to focus more on the needs of the pupils within a class. As teachers are making the electronic 'books' for their classes these will include appropriate resources to cater for SEN pupils, and different levels of challenges within the class ensuring that all pupils are challenged with high expectations of work. In most situations the creation of these books and resources should negate the need for specifically written plans although on some occasions these may be required and can be requested.

Resources

White Rose Maths (based on the National Curriculum for Mathematics) provides us with our main planning and teaching resources however day to day lessons, resources and objectives may come from a variety of other appropriate sources as well.

In order to support the delivery of maths lessons to all children the school has a large range of concrete and pictorial resources available. Within the classroom maths resources are available to children at all times, these include basic resources such as number lines, 100 squares, rulers, counters, numicon etc. Other specific resources (e.g. balance scales, meter rulers) are made available as required. Resources are audited on a rolling two-year cycle and replenished and updated between KS1 and KS2.

Throughout the school knowledge of core times table and number bond knowledge is understood to be vital so as part of the resources the school has invested in Times Tables Rockstars and Numbots to ensure practice of key number facts.

We recognise the importance of stimulating learning environment. The school provides an environment, which is rich in a wide variety of print, pictures, diagrams, charts, tables, models and images. Each classroom has a mathematical display area, which includes a working wall with mathematical vocabulary, visual aids and the interactive activities where appropriate. This is updated regularly in accordance with the area of maths currently taught.

All classes within the school will have 1:1 iPads for all pupils. These are valuable resources and not just used for recording in mathematics. Staff are encouraged to experiment with them for other mathematics applications across all subjects.

Assessment, Feedback and Record Keeping

- **Short term**
Children's classwork is assessed frequently through regular marking, analysing children's errors, questioning and discussion. Children's work is marked and feedback is given with next steps as in line with the marking and feedback policy. Pupils will take part in a weekly Assertive mentoring challenge with it alternating between a taught week and an independent week.
- **Medium term**
Each half term children in each class are assessed using Assertive Mentoring Assessments. These materials are used alongside judgements from class work to form a teacher assessment for each child. Assessment grids are used to track progress against each objective. These judgements are then fed into the whole school tracking system. A moderating meeting to review the accuracy of these judgements is held each term.
- **Long term**
The following tests are also carried out annually:
 - SATS at the end of Y2 and Y6
 - The children are assessed in the early years using the Foundation Stage Profile

Contribution of Maths to teaching in other curriculum areas

Mathematics is a tool for everyday life. It is a network of concepts and relationships and is used to analyse and communicate information and ideas in practical tasks and problems. By making links to other subjects at the initial planning stage we aim to provide real context in which to apply skills taught during the maths lessons.

Inclusion

Children with special educational needs and Pupil Passports:

- Within the daily mathematics lesson teachers provide activities to support children who find mathematics difficult. Children with SEN are taught within the daily mathematics lesson and are able to take part at their level through the support of a Teaching Assistant and appropriate activities and resources.
- Where applicable children's Pupil Passports will incorporate suitable objectives from the Maths curriculum.

- Intervention Groups will take place at times throughout the year, in order to give further support to children working below national expectations.

Monitoring, Teaching and Learning

This will be undertaken by the Subject Leader and other members of SLT.

Areas to be monitored will be decided at the beginning of each term and will be recorded on the Monitoring timetable so that staff are informed. Results of any monitoring will be fed back to staff quickly and to SLT at their meetings so that any action required can be carried out effectively.

Roles and Responsibilities

1. Subject Leader

- Supports teachers in their planning and teaching;
- Lead by example in the way they teach in their own classroom;
- Prepare, organise and lead INSET with the support of the Head Teacher;
- Work co-operatively with the Inclusion Manager;
- Monitor different aspects of maths teaching and learning feedback to SLT and staff on findings and future actions;
- Attend INSET provided by LA consultants and Maths Hubs;
- Be available to discuss with the Head Teacher, class teacher, parents and Maths Governor and progress of maths in the school.

2. Class Teachers:

- To deliver a Daily Maths lesson to their children which is engaging and motivating, is informed by the National Curriculum for Mathematics 2014 and is accessible to all children.

3. Children:

- To develop their skills, understanding and attainment in Maths through engagement with the lesson, behaviour conducive to learning, independent work and thought and confident to challenge or ask for help.

4. Parents/Carers:

- To support their children's learning in maths by taking an interest in their child's progress, encouraging the children to complete maths homework and having a good relationship with the class teacher so that queries and problems regarding maths can be dealt with easily.