Northfield Primary and Nursery School

Mathematics Policy
Updated: June 2024
Review: June 2026

PHILOSOPHY

At Northfield Primary School we value every pupil and the contribution they have to make in all subjects, including mathematics. As a result, we aim to ensure that every child achieves success and that all are enabled to develop their mathematical knowledge and skills through high quality teaching. We pride ourselves on providing pupils with many opportunities to explore and develop their mathematical understanding via a Mastery approach, where blocks of new learning build directly upon previous learning, term on term and year on year. Mathematics is an essential skill within school and everyday life; we deliver a high quality mathematics education to enable all pupils to have a foundation for understanding the world, an ability to reason mathematically and to be curious about the subject.

AIMS

- To develop competence and confidence in mathematical knowledge, concepts and skills.
- To develop an ability to solve problems, to reason, to think logically and to work systematically and accurately.
- To use initiative and an ability to work both independently and in cooperation with others.
- To develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of mathematics in the wider world.

Practise and consolidation play a central role to mathematics learning. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts in tandem. Mathematical knowledge and vocabulary are introduced and revisited regularly to support children to know more and remember more. Teaching staff ensure that concepts are modelled to pupils using multiple pictorial representations to support visualisation and therefore deepen children's understanding of mathematical concepts.

PLANNING

Mathematics is a core subject in the National Curriculum, and we use the 2014 curriculum as the basis for implementing the statutory requirements of the programme of study. When planning, staff use the White Rose materials which outline the small steps for each mathematical strand and also give ideas and guidance for the teaching of fluency and problem solving. Lessons are planned using a task/ teach ('Ping Pong') approach. In KS2, staff have access to 'Maths on Target' work books and also use the IT resources 'Maths Watch' and 'Times Tables Rockstars'. Staff also follow the written calculation policy (see appendix).

Northfield is taking part in the National Centre for the Excellence in the Teaching of Mathematics (NCETM) 'Mastering Number' project to support the teaching of basic maths skills in our school. The project aims to secure firm foundations in the development of good number sense. The aim, over time, is that children will leave Key Stage 1 and begin Key Stage 2 with fluency in calculation and a confidence and flexibility with number.
Pupils in Foundation 2, Year 1 and 2 access a daily 'Mastering Number' session. In Years 1 and 2 this is in addition to the main maths lesson.

LESSON DELIVERY

Within each lesson, teachers deliver and model the skill that pupils should acquire, apply and deepen throughout a range of increasingly challenging tasks. This approach enables pupils to move through the

different stages of learning at a pace appropriate to their current level of understanding. Independent work challenges and encourages pupils to draw on a range of skills, new and previously taught, in order to develop their mathematical thinking and become more confident in solving more complex mathematical problems and reasoning tasks. Teaching links mathematical concepts to real life situations, wherever possible, so that pupils can make connections between their learning within the classroom and the wider world.

Teaching places a high importance on the development of key mathematical facts and knowledge including multiplication and division, in order to avoid cognitive overload in the working memory when learning new concepts. In a mission to have 'facts at their fingertips' pupils are encouraged to use the Times Tables Rock Stars online platform, in school and at home, to practise their multiplication tables and the derived facts, whilst increasing their recall time.

Teachers live mark children's answers to independent work and engage in high quality discussion and questioning to address difficulties, misconceptions and also provide further challenge. Whole-class marking takes place in which answers are shared with pupils. If answers are incorrect, pupils show that the misconceptions have been addressed using a green pen.

THE EARLY YEARS FOUNDATION STAGE

The EYFS mathematical curriculum has been designed around the mathematical educational programme as set out in the Statutory framework for the early years foundation stage effective from the 4 January 2024, using both Development Matters and Birth to Five Matters to ensure a high quality, ambitious curriculum. Children are provided with opportunities to develop their understanding of mathematical concepts through varied experiences and activities that allow them to enjoy, explore, practise and talk confidently about Mathematics. The NCETM Mastering Number programme is used for maths lessons four times a week and White Rose maths is used to ensure a progression in planning and in children's learning of shape, space and measure objectives once a week.

INCLUSION

The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by adaptive teaching, emphasising deep knowledge and through support and intervention. The questioning and scaffolding individual pupils receive in class as they work through problems will differ and pupils who grasp concepts rapidly are challenged through more demanding problems which deepen their knowledge further. Where necessary, pupils requiring extra help are sensitively supported, with minimal disruption to quality-first teaching. Pupils' difficulties and misconceptions are identified through immediate formative assessment and addressed with rapid intervention – commonly through individual or small group support later the same day. Our ambition is to narrow the gap between different groups of pupils and to ensure that their life-opportunities are equal, irrespective of background or ability.

PARENTAL/CARER INVOLVEMENT

We report on children's achievements in Mathematics in their annual report. During parent / carer evenings teachers discuss a child's progress towards meeting Age Related Expectations (ARE) and ways in which they might support them.

THE ROLE OF THE MATHS LEADER

The Maths leader will be responsible for the tasks listed below:

- lead the development of Mathematics within the school;
- provide guidance to individual members of staff;
- monitor expectations, provision and attainment across the school and providing feedback to develop practice further in order to raise standards;
- keep up to date with local and national developments in Mathematics via working with our local Maths Hub and deliver CPD for staff;
- monitor and evaluate the development of the Mathematics curriculum and give guidance on assessment, recording and reporting;
- order resources;
- be responsible for the organisation and maintenance of Mathematics resources
- carry out policy reviews.

LINKS WITH OTHER SUBJECTS

English
Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. We encourage children to read and interpret problems in order to identify the Mathematics involved. Children are given opportunities to discuss their Mathematical thinking in partners, groups and with the whole class in every lesson. Younger children enjoy stories and rhyme that rely on counting and sequencing. Teachers expose children to rich Mathematical vocabulary which is displayed on Working Walls and is reinforced. Mathematical vocabulary is progressive throughout the Early Years Foundation Stage to Year 6.

Computing
We use computing in Maths teaching where appropriate, to help meet the statutory requirements in Curriculum 2014. In KS2, staff use 'Maths Watch' to supplement their teaching. Year 2 – Year 6 pupils have access to Times Tables Rockstars which is used as a tool to develop and practice times tables knowledge.

Relationships and Health Education (PSHE)
The planned activities that children participate in within the classroom encourage them to cooperate and respect each other's views. There are also opportunities to explore real-life situations in their work on the spending of money. It supports social development through the way children are expected to work with each other in lessons. There are regular opportunities to discuss their ideas and reasoning.

Science
Children communicate data using a wide range of methods developed in Mathematics including measuring, tables, bar charts, line graphs and by using appropriate vocabulary.

Design & Technology
Children are able to reinforce what they have learnt during their Maths lessons within Design and Technology. Pupils develop their Maths skills through measuring and marking out, drawing and interpreting tables, graphs and bar charts and using the appropriate vocabulary.

Geography
In developing geographical skills, children will use Mathematical language and symbols, co-ordinates, tables, graphs and line graphs. They will also select appropriate Mathematical equipment and use appropriate Mathematical vocabulary.

STAFF DEVELOPMENT
We are part of the East Midlands Maths Hub. The Mathematics leader will attend network meetings and Teacher Research Groups to keep abreast of current developments in Mathematics. Staff will be kept informed of any changes within the Mathematics curriculum and CPD will be delivered during staff meetings and/or Inset days.

ASSESSMENT & RECORDING

Teachers and teaching assistants are constantly making formative assessments on each child's progress in Mathematics. Children are given in the moment feedback within lessons. Their progress is recorded informally by teaching staff through targeted marking of work which is then used to inform future practise and close gaps. We also make termly teacher assessments of children's attainment and progress using NFER assessments, or past SAT papers, in Years 1-6. Teaching staff use the results of the NFER/SAT assessments to identify gaps in children's Mathematical knowledge and understanding and use this information to support planning and interventions.

In the EYFS children's mathematical development is continually measured through observations and assessments of adult directed and child-initiated activities and learning. Attainment is recorded and analysed at key points during the year using our benchmarking tool and recorded on ScholarPack. The level of mathematical development children have attained by the end of the EYFS is defined by the early learning goals (ELGs) for mathematics. This is a holistic, best-fit judgement about their development, and their readiness for Year 1.

Children in Year 6 complete the statutory national Key Stage 2 tests. Pupils in Year 2 complete the optional Key Stage 1 SATs. The SAT results for Year 2 and Year 6 are documented and parents/carers are informed of their child's results. Children in Year 4 complete the Multiplication Tables Check. Parents/carers are informed of their child's results.

MONITORING AND EVALUATING

The Maths leader is responsible for the monitoring of children's work and the quality of teaching and learning. This involves monitoring and evaluating planning, work scrutiny, pupil interviews, learning walks and lesson visits. Curriculum conversations take place between the Maths leader and teaching staff to review the curriculum for each year group and identify any areas of development. Where appropriate, CPD support will be given to identified staff, as well as whole school CPD e.g. during staff meetings and INSET days. The Governing Body is kept up to date of developments within Mathematics via termly reports which are written by the Maths leader and termly meetings between the Maths leader and link governor.

Policy written by: S Clark
June 2024
Review date: June 2026