



Mathematics Policy

2024 – 2025

Introduction

This policy outlines the aims, organisation and management for the teaching and learning of mathematics at Norbreck Primary Academy.

It is based on the National Curriculum 2014 programmes of study for mathematics.

This policy was reviewed and updated by Amanda Swarbrick in October 2024.

Philosophy

Mathematics is a life skill. It is an essential element of communication, widely used in society, both in everyday situations and in the world of work. Mathematics should be studied to help develop powers of logical thinking, accuracy and spatial awareness. Mathematics is not only taught because it is useful; it should be a delight and wonder, offering pupils intellectual excitement.

This policy outlines what we are aiming to achieve in respect of pupils' mathematical education. It also describes our agreed approach to the planning, delivery and assessment of the mathematics' curriculum.

The National Curriculum (2014) for mathematics describes what must be taught in each key stage. The mathematics taught and the methods used reflect both the statutory requirements and the non-statutory guidance and recommendations outlined in the following documents:

- The Revised Statutory Framework for the EYFS (2012)
- The Development Matters in the EYFS (2012)
- Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013)
- Red Rose Mastery Maths Scheme of Work from Lancashire Professional Development Service

This policy provides information and guidance for staff, governors and other interested persons.

Aims

Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children

learn to appreciate the contribution made by many cultures to the development and application of mathematics.

At Norbreck Primary Academy we aim to:

- develop a positive attitude to mathematics as an interesting and attractive subject in which all children gain success and pleasure
- develop mathematical understanding through systematic direct teaching of appropriate learning objectives
- encourage the effective use of mathematics as a tool in a wide range of activities within school and, subsequently, adult life
- develop an ability in the children to express themselves fluently, to talk about the subject with assurance, using correct mathematical language and vocabulary
- develop an appreciation of relationships within mathematics
- develop ability to think clearly and logically with independence of thought and flexibility of mind
- develop an appreciation of creative aspects of mathematics and awareness of its aesthetic appeal
- develop mathematical skills and knowledge and quick recall of basic facts.

Teaching and Learning

Our teachers use a variety of teaching styles to cater for the different learning needs of pupils in mathematics lessons. Our principle aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources and apparatus to support their work. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Although the programmes of study of the National Curriculum (2014) are organised into distinct domains we believe as the National Curriculum states 'that pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasing sophisticated problems' (DFE, 2013:3) With this at the forefront of our teaching we ensure that using and applying mathematics is integrated into planning and teaching.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies such as through differentiated group work, different levels of support provided to groups and individuals and by organising the children to work in pairs on open-ended problems or games.

We use teaching assistants to provide appropriate support to individuals or to groups of pupils. Teaching assistants within Norbreck Primary Academy are viewed as an important 'asset' and are appropriately involved in the planning and delivery of the mathematics curriculum. Their role in a maths lesson is to support, offer live marking and feedback, encourage independence. Their knowledge, skills and understanding are

constantly updated through involvement in school-based and external professional development providers.

Mathematics Curriculum

Mathematics is taught following the Red Rose Mastery Maths Scheme of Work from Lancashire Professional Development Service. The scheme is based on the Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013). The scheme provides teachers with comprehensive planning materials for each lesson including teaching resources, detailed planning guidance and children's task workbooks which include tasks to challenge more able mathematicians. The overview demonstrates that the sequence of learning allows children to revisit areas of learning building strong foundations and allowing children to think deeply in order to achieve mastery.

Senior Leaders and Mathematics Subject Leaders are responsible for monitoring the mathematics planning within our school.

KIRFS – Key Instant Recall Facts

Key Instant Recall Facts (KIRFS) are designed to support the development of the mental skills and key knowledge that underpin much of the maths work in school.

An important part of maths development has always been learning of certain maths facts. For many years this has included practising times tables and addition facts, such as number bonds and doubles. Each half term children focus on one area of Key Instant Recall Facts (KIRFs) that will be taught in school. 10 minutes per day is given to practising the focused KIRF for that half term. A whole school yearly overview of our KIRFs is provided on our website.

Times Tables Rock Stars

Times Tables Rock Stars is a maths programme for practising times tables and has a proven track record of boosting children's fluency and recall in multiplication and division. Progress and engagement is encouraged in key stage two and teachers monitor, recognise and reward achievements.

Assessment

At Norbreck Primary Academy we recognise that assessment for learning lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective assessment for learning depends crucially on actually using the information gained. The structure of the Red Rose scheme allows opportunities for teachers to assess and review through formal assessments at the end of terms 2, 4 and 6. We use the end of unit learning check assessment materials for formative assessment purposes which would identify any gaps to be addressed before moving on to the next unit. These are also drawn upon to inform prior learning as and when a domain is being studied.

The assessment procedures within our school encompass:

- Teachers and teaching assistants making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded
- Using knowledge of pupils drawn from ongoing pupil tracking records and the learning checks to inform 'prior learning' at the beginning of each unit of work to guide our planning and teaching
- Adjusting planning and teaching within units in response to pupils' performance
- Use of ongoing teacher assessment in order to identify gaps in attainment and at the end of each full term using this information to judge each child's attainment against year group expectations
- Use of information gained from statutory and internal school tests. Analysis is done at both a quantitative and qualitative level. Information gained is used to identify the group's and individual's strengths and areas for improvement and also to determine which strategies or methods are particularly effective in respect of specific areas of mathematics (the how and why).
- Attainment is recorded and tracked using Sonar Application from Juniper Education
- Year 4 pupils will undertake the statutory multiplication tables check in June. This is to determine whether pupils can recall their times tables fluently, which is essential for future success in mathematics. The results are used to identify pupils for more support.
- Year 6 pupils will undertake National Curriculum Assessments (SATs), in May, to determine pupils attainment at the end of key stage 2. The results are used to identify pupil need, measure school's performance and provide national and regional performance statistics.

The Early Years Foundation Stage

Work undertaken within the Early Years Foundation Stage is guided by the requirements and recommendations set out in the Revised Statutory Framework for the EYFS (2024), the Updated Development Matters Guidance (2023) and the Red Rose Mastery Maths Scheme from LPDS. We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, discover, practise and talk confidently about mathematics.

Other Aspects

In order to provide the children with active and stimulating learning experiences, a variety of teaching and learning opportunities, as recommended in the National Curriculum, are adopted:

- A progression through written calculation has been agreed. The written methods taught are exemplified in our calculations policies.
- Calculators should not be used as a substitute for good written and mental arithmetic. They should therefore only be introduced near the end of key stage 2 to support pupils' conceptual understanding and exploration of more complex number problems, if written and mental arithmetic are secure. Teachers should use their judgement about when ICT tools should be used.
- Problem solving is a regular feature of mathematical activity in the classroom to develop independent thinking amongst pupils as well as confident handling and application of mathematical knowledge.
- ICT is used where appropriate by teachers and pupils to support teaching and learning in Mathematics.
- Each day children will practise their instant recall fact. (KIRFS) We have an agreed set of.
- Pupils will develop their mathematical vocabulary and present a mathematical justification, argument or proof. They must be assisted in making their thinking clear to themselves as well as others and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Environment

It is important that the classroom environment supports both the learning and teaching of mathematics. The school aims to provide a mathematically stimulating environment:

- through the development and use of working walls to support learning and teaching in a lesson or series of lessons
- through interactive displays that promote mathematical thinking and discussion
- through displays of pupils' work that celebrate achievement
- by providing a good range of resources for teacher and pupil use
- through the maths page on the school website

There is a range of resources to support the teaching of mathematics across the school. Children are encouraged to use practical and visual models to support learning in mathematics. All classrooms have a wide range of appropriate practical apparatus known as 'kit boxes' which they are taught to use to aid learning but also to justify their knowledge and understanding.

Teaching Mathematics to Children with Special Needs

At Norbreck Primary Academy we aim to provide a broad and balanced education to all pupils. Quality First Teaching is considered an entitlement for all pupils. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level. We use the 'Ready to Progress' materials provided by the NCETM and Numberstacks which is an intervention programme which helps children to master the foundations of the number system.

We also recognise, and aim to make provision for, pupils who have a particular ability in mathematics.

Responses to Children's Work

We recognise the importance of responding to children's work, whether orally or in writing. We seek to encourage children by acknowledging positive achievements. This could include praise for use of a viable method even if the end results were incorrect. Children are frequently provided with next steps to support and enhance their understanding and make links between previous and future learning. Children are given opportunities, and actively encouraged, to explain their work to others and to display their work when it seems appropriate. They are encouraged to value and respect the work of others.

Equal Opportunities

All pupils will have equal opportunity to reach their full potential across the mathematics curriculum regardless of their race, gender, cultural background, ability or physical disability.

Monitoring and Review

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

The work of the subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

This policy should be read in conjunction with:

Calculations Policies

Curriculum Policy

Teaching and Learning Policy

Assessment Policy

Inclusion Policy