



Kirkby C of E Primary School

Maths Policy

Introduction

At Kirkby CE we provide our pupils with the essential knowledge and skills needed to prepare them for their future success. We maximise pupils' potential by creating a stimulating, secure and caring environment in which a broad and balanced education is provided.

This policy outlines the teaching, organisation and management of Mathematics at Kirkby CE Primary School and is based on the National Curriculum Programmes of Study. The policy has been drawn up to reflect our whole school approach to Mathematics and the implementation of this policy is the responsibility of all the teaching staff.

We aim to provide the children with a Mathematics curriculum, which will allow them to become confident individuals through developing their mathematical skills to their full potential. We also aim to present Mathematics as a challenging, exciting, creative and relevant subject in order to promote a positive and confident attitude.

The primary purpose of our curriculum is to guarantee a successful learning experience for every child. With this in mind, we are committed to ensuring that every child is developed to their full potential within Maths.

- Every child will be educated to the highest possible standard, as set by the Department for Education.
- Every child, in every lesson, will be provided with opportunities to: be engaged in, challenged and process their learning.
- Every child will be provided with opportunities to increase their self-esteem, motivation and aspirations.
- Every child will be encouraged to be enterprising, creative and resilient in order that they may succeed in an ever-changing world.

- Every child will be provided with opportunities to experience the wider world as a core part of their curriculum.
- Every child will be taught about budgeting and financial management in order that they may succeed in an increasingly unpredictable financial world.

Mathematics Teaching Time

To provide adequate time for developing mathematics skills, each class teacher will provide a daily Mathematics lesson (one of these sessions being Arithmetic). To ensure that children have accurate recall of facts and methods, additional sessions outside of the daily mathematics lesson are planned for (e.g. 'Fluent in Five', 'Flashback 4' and Multiplication and Division facts sessions). During these sessions children will practice and consolidate basic skills. Recall of methods encourages children to select and choose an appropriate method/strategy e.g. mentally, jot or annotate or choosing an expanded or compact written method.

The structure of each mathematics lesson is flexible and will vary depending on the needs of the children and the content of the lesson.

EYFS

We teach mathematics in Nursery and Reception as an integral part of the Early Years Foundation Stage. The format for the daily lesson differs from the rest of the school in that objectives are covered throughout the day in short, focused class sessions, followed up in small group work and explored and applied within enabling environments.

Within the EYFS the six main areas of developing a well-rounded mathematician are planned, taught and assessed: There are six main areas that collectively underpin children's early mathematical learning and which provide the firm foundations for the maths that children will encounter as they go up the years in primary school:

- ✓ Cardinality and Counting
 - ✓ Comparison
 - ✓ Composition
 - ✓ Pattern
- ✓ Shape and Space
 - ✓ Measures

Provision of teaching and learning

Yearly objectives are taken from the National Curriculum for Mathematics and the programmes of study are accessed for the appropriate year group. Materials from the White Rose Maths Hub form the basis of the teaching sequences. 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 rather than acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Learning mathematics is a process that requires active involvement. The teaching of mathematics at Kirkby CE Primary School provides opportunities for:

- ✓ Group work
- ✓ Paired work (talk partners)
- ✓ Whole class teaching
- ✓ Individual consolidation work
- ✓ Listening, responding to and evaluating their own and others' contributions

Quality questioning underpins our philosophy for teaching mathematics. At the start of every teaching sequence questioning enables teachers to assess where the children are in their learning and provides assessment allowing us to plan effectively for the future needs of the children.

Questions are open ended and used as a basis for further questioning, to unpick misconceptions and deepen the children's knowledge and understanding. The questions enable teachers to adapt their teaching to the needs of the children offering them the opportunities to exceed expectations and add depth to their understanding.

As Mathematics is such an important life skill, we embrace a 'Mastery' approach to our lessons. The 'White Rose' scheme of learning is taught across the school, allowing pupils to spend longer on key mathematical concepts, most noticeably number. During these longer units, pupils will see mathematics in a real life context, before moving at an appropriate pace from the concrete/pictorial approach (supported by manipulatives including Numicon, Base 10, number tracks and number lines and place value charts) to the abstract.

The White Rose Maths Hub materials form the basis of the teaching sequences from EYFS to Year 6 at Kirkby CE. This underpins our maths philosophy and ensures that fluency, reasoning and problem solving are taught through a concrete, pictorial and symbolic methodology. Problem solving strategies are explicitly taught and modelled before children apply them to real life situations.

Fluency at Kirkby CE Primary School

At Kirkby CE, our Mathematics curriculum is designed to ensure that all children become fluent in the fundamentals of Maths, can reason mathematically and solve problems with confidence.

We promote two key types of fluency:

- Conceptual fluency – developing a secure understanding of mathematical ideas and relationships.
- Procedural fluency – applying efficient methods for calculations, both mental and written.

Children are given regular opportunities to practise and apply their skills, recall key facts, develop number sense and make connections across different areas of Mathematics.

Mathematical Reasoning at Kirkby CE Primary School

Reasoning mathematically involves exploring enquiries, making conjectures, identifying patterns, and justifying conclusions using mathematical language. At Kirkby CE, children develop confidence in reasoning through opportunities to:

- make and test conjectures and generalisations,
- justify and prove ideas using appropriate mathematical vocabulary,
- tackle reasoning challenges such as *true or false*, *spot the mistake*, *odd one out*, and *always, sometimes, never true*.

We model and encourage different approaches to reasoning, including verbal explanations, written methods, pictorial representations and the use of concrete resources. Reasoning is explicitly taught in maths lessons and revisited regularly across all strands of mathematics.

Problem Solving at Kirkby CE Primary School

Problem solving builds on children's fluency and reasoning to apply mathematics in a variety of contexts, both routine and non-routine. It involves breaking down complex problems into manageable steps, persevering to find solutions and applying skills with increasing sophistication.

At Kirkby CE, children explore five types of problem solving across all strands of Mathematics:

- word problems,
- working systematically to find all possibilities,
- visual and diagram puzzles,
- finding rules and describing patterns,
- logic problems.

Opportunities are provided for children to apply their knowledge in meaningful and engaging contexts, enabling them to develop confidence, creativity and independence as problem solvers.

Resources

Mathematics is well resourced at Kirkby CE Primary School. Each class has a general bank of resources for day-to-day Mathematics lessons. Further shared resources are stored centrally. Each

classroom is equipped with an interactive whiteboard and a range of interactive teaching programmes are available.

Inclusion in Mathematics

The needs of all children are considered carefully when planning and teaching Mathematics at Kirkby CE Primary School. We want children to reach their full potential and where necessary, teachers identify which children are not making adequate progress and take steps to improve their progress and attainment in. Teachers will involve all pupils through carefully planned support, scaffolding and challenge. Pre-teach and Keep-Up interventions are used to help support lower attaining children continue to make progress and access the daily lessons with their peers. Catch- Up interventions are used to narrow the attainment gap between lower attaining pupils and those working at age related expectations. These interventions are planned and delivered according to the needs of individual pupils. Higher attaining pupils are provided with challenges within the lessons to deepen their learning and are provided with opportunities to apply their knowledge and understanding across other subjects.

Pupils with Special Educational Needs

Teachers include all pupils in their daily Mathematics lessons including those with SEND. Where appropriate, this will be achieved through differentiated work and, in exceptional circumstances, an individualised curriculum. Work in mathematics considers the targets set for individual children in class Provision Maps which are reviewed termly with the school SENDCO.

Assessment

Assessment is an integral part of the teaching process. Assessment is purposeful, allowing teachers to match the correct level of work to the needs of the pupils, therefore benefiting the pupils and ensuring confidence and progress. Assessments are used to inform teaching in a continuous cycle of planning, teaching and assessment.

➤ Summative assessment

Summative assessment occurs at pre-defined periods of the academic year such as SATs tests, Test Base standardised tests or end of White Rose unit tests. At the end of Key Stage 1 and 2, Y2 and Y6 teachers make formal end of Key Stage Assessments. Summative tests help teachers to benchmark

pupils, track progress and to make mid-year and end of year judgements on a child's attainment against a year group's programme of study objectives.

➤ **Formative assessment**

Formative assessment is the ongoing assessment carried out by teachers both formally and informally during mathematics lessons. This type of assessment is used to assess knowledge skills and understanding and is used to identify gaps and misconceptions. The results of formative assessments have a direct impact on the teaching materials and strategies employed immediately following the assessment. It enables teachers to provide scaffolding, support or challenge to pupils as appropriate. Some possible methods of formative assessment include:

- ✓ Quality questioning
- ✓ Talking to the children
- ✓ Marking and feedback of pupils' work
- ✓ Self and peer assessment against specific learning objectives

Marking and Feedback

Consistently high quality marking and constructive feedback from teachers ensures pupils make progress in their learning. A marking code that the children recognise gives guidance for development and improvement. Quality marking provides opportunities for children to respond and develop the learning from a session the class teacher has selected.

Recording and reporting

Parents and carers are updated with their child's achievements and encouraged to be involved in different ways:

- ✓ Inviting them into school twice yearly to discuss the progress of their child.
- ✓ Providing parents with an end of year report in the summer term

Management of Mathematics

The Mathematics subject leader and the senior leadership team are responsible for ensuring that all staff are adequately trained so that they can deliver the curriculum effectively. Regular communication with staff is sustained throughout the year.

Role of the Subject Leader

- Support colleagues in the implementation of the National Curriculum.
- Monitor progress in mathematics throughout the school by lesson observations, scrutiny of children's books, scrutiny of planning and exploring pupil voice.
- Lead by example in the way they teach in their own classroom.
- Teach demonstration/ team-teaching lessons where necessary.
- Prepare, organise and lead INSET, with the support of the Headteacher and external consultants.
- Work co-operatively with the SENDCOs.
- Attend training provided and disseminate to colleagues.
- Inform parents and carers of new developments in the subject.
- Provide an annual mathematics action plan, which will form part of the School Development Plan.
- Be responsible for the purchase and organisation of resources.

Reviewed – September 2026

Review Date – September 2027