Birkdale Primary School

Mathematics Policy

The policy was updated
September 2023

The policy will be reviewed
September 2025

Aims

The 2014 national curriculum for Mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of Mathematics, including through varied and frequentpractice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- reason Mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematicallanguage
- can solve problems by applying their Mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

The National Curriculum for Mathematics

Mathematics is an interconnected subject in which pupils need to be able to move fluently betweenrepresentations of mathematical ideas. The 2014 National Curriculum programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

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 graspconcepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

In their learning, pupils will engage in:

- Problem solving
- Reasoning activities
- Practical work
- Investigational work
- Mathematical discussion
- The development of mental strategies
- Written methods
- Consolidation of basic skills and routines
- Appropriate calculator and computer work

The National Curriculum sets out year-by-year programmes of study for Key Stages 1 and 2. This ensures continuity and progression in the teaching of mathematics. Teachers use the White Rose Maths scheme to support their planning and teaching of Maths across school.

EYFS

The EYFS Statutory Framework 2014 sets standards for the learning, development and care of pupils from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development Matters' non statutory guidance as well as the White Rose Medium Term plans for EYFS Mathematics.

The EYFS Framework in relation to mathematics aims for our pupils to:

- develop and improve their skills in counting
- understand and use numbers
- calculate simple addition and subtraction problems
- describe shapes, spaces, and measures

Homework

Homework for mathematics will be set regularly. The class teacher will decide when the homework is set and when it should be collected in. Year 5 and 6 should have regular homework to support revision for the KS2 tests.

Teachers' Planning and Organisation

Long term planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape, Space & Measure) provide the long term planning for mathematics taught in the school.

Medium term planning

Years EYFS -6 use the White Rose Maths schemes of learning as their medium term planning documents.

These schemes provide teachers with exemplification for mathematics objectives and are broken down into fluency, reasoning and problem solving, key aims of the National Curriculum.

They support a mastery approach to teaching and learning and have numbers at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.

Short term planning

The above schemes of learning support weekly planning and are monitored at intervals by the mathematics subject leader. EYFS planning is based on the medium term plans and delivered as appropriate to individual pupils with thought to where the pupils are now and what steps they need to take next.

All classes have a daily mathematics lesson where possible. In Key Stage 1 lessons are 45-60 minutes and in Key Stage 2 at least 60 minutes. In addition to this, Maths fluency is taught at least 3 times a week for 15 minutes.

Teachers of the EYFS ensure the pupils learn through a mixture of adult led activities and pupil initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach.

Special educational needs & disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, pupils' support plans incorporate suitable objectives from the National Curriculum for Mathematics or Development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson. Mathematics focused intervention in schools helps pupils with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the SENCO and/or the class teacher.

Within the daily mathematics lesson, teachers have a responsibility to not only provide adapted activities to support pupils with SEND but also activities that provide sufficient challenge for pupils who are high achievers. It is the teachers' responsibility to ensure that all pupils are challenged at a level appropriate to their ability.

Calculation

There is a calculation policy in place which outlines progressive steps for the four numberoperations of addition, subtraction, multiplication and division.

Children are introduced to the processes of calculation through practical, oral and mental activities.As children begin to understand the underlying ideas they develop ways of recording to support their thinking and calculation methods, use particular methods that apply to special cases, and learn to interpret and use the signs and symbols involved. Over time children learn how to use models and images, such as empty number lines, to support their mental and informal written methods of calculation. As children's mental methods are strengthened and refined, so too are their informal written methods. These methods become more efficient and succinct and lead to efficient written methods that can be used more generally. By the end of Year 6 children are equipped with mental, and written methods that they understand and can use correctly. When faced with a calculation, children are able to decide which method is most appropriate and have strategies to check its accuracy. At whatever stage in their learning, and whatever method is being used, it must still be underpinned by a secure and appropriate knowledge of number facts, along with those mental skills that are needed to carry out the process and judge if it was successful.

Cross Curricular

Mathematics teaches children how to make sense of the world around them through developing their ability to calculate, reason and solve problems. It is a core subject with a range of cross- curricular links but most often, is best taught discretely, using opportunities from other subjects to rehearse skills in a context. Numeracy involves developing confidence and competence in number work; shape, space and measure; handling data and the using and applying of these skills.

ICT

Information and Communication Technology can enhance the teaching of Mathematics significantly.It has ways of impacting on learning that are not possible with conventional methods. Teachers can use software to present information visually, dynamically and interactively, so that children understand concepts more quickly. A range of software and resources are available to support work with the computers as well as a range of apps for use on the iPads.

Assessment and Recording

Assessment for Learning is fundamental to raising standards and enabling children to reach their potential. Assessment in Mathematics takes place daily using a range of strategies such as marking and feedback of work and verbal discussions with children. This information informs subsequent planning and next steps in teaching and learning. Marking will be carried out in accordance to the school's marking policy.

The Mathematics subject leaders monitor outcomes for children through regular work scrutinies andteachers from across the school meet regularly to moderate work both in year groups and across yeargroups to ensure consistency and progression.

Data is collated to inform the school's School Improvement Plan (SIP) and Maths Action Plan. This tracking includes termly assessment of standards for each child against key objectives for their year group. This data is then used to identify children who are making the expected progress, may be making rapid progress or less than expected progress so that strategies can be put into place to overcome any barriers. End of topic tests are currently used alongside independent problem solving activities to help inform teacher assessment at the end of each topic area taught.

Formal assessments for specific year groups:

Year	**Assessment**
Foundation stage	Attainment on entryAttainment per term
Year 1	Teacher assessment
Year 2	Teacher assessment (previously KS1 SATs)
Years 3, 4, 5	Teacher assessment Multiplication Test (Year 4)
Year 6	KS2 SATs

Reporting

Parent consultation evenings are held in the Autumn and Spring terms where children's progress andachievement will be discussed. All parents receive an end of year report which outlines their child's progress and identifies them as working towards, working at or working at greater depth in relation to the appropriate year group's objectives.

Resources

All classes have access to a range of well labelled, up to date resources to support their learning. Ourcurrent practices ensure that children move through the following steps in gaining confidence with topic areas - concrete, pictorial, abstract – and the use of resources is paramount in this.

Inclusion

Wherever possible we aim to fully include all pupils in maths teaching. Through our maths teaching we provide learning opportunities that enable **all** pupils to make progress. We set suitable learning challenges and respond to each child's individual needs.

Roles and Responsibilities of the Subject Leaders

To work with the Headteacher and the Senior Leadership Team to monitor, plan and developthe subject to allow for progression, continuity and high standards of attainment in Mathematics.

- To support colleagues in the teaching of Mathematics and provide astrategic lead and direction in the subject.
- To manage periodic book reviews to ensure the curriculum is being coveredand the marking policy is adhered to.
- To monitor progress in Mathematics, highlight and plan actions required.
- To take responsibility for auditing and organising Mathematics resources.
- To keep up to date with developments in Mathematics education and toinform colleagues as appropriate.
- To draw up annual action plan for Mathematics.
- To review the school policy for Mathematics as appropriate.

Governor Links

Termly meetings are arranged with Link Governors to discuss Action Plans and currentprogress within this subject. During the Spring Term a learning walk is arranged with the Link Governors and the subject leaders. During meetings data, pupil discussions, moderation, book scrutiny's and learning walks are discussed.