



# Edwards Hall Primary School

## Mathematics Policy

<b>Issued by:</b>	Mathematics Policy
<b>Responsibility of:</b>	Mathematics Lead
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## Rationale

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.

*(Primary National Curriculum)*

## Aims

At Edwards Hall we follow the statutory guidance within the National Curriculum and, as such, our aims are that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice 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 mathematical language
- can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

We recognise that mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. Although the programmes of study are taught in distinct domains, pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

## Statutory Requirements

The school follows the requirements of the National Curriculum which is categorised into 4 content domains:

- Number (number and place value, addition and subtraction, multiplication and division, fractions [including decimals and percentages])
- Measure
- Geometry (properties of shape, position and direction)
- Statistics

Children are taught the relevant skills for their age, as set out in the document; learning focuses on mastery of concepts rather than being driven by content.

## Teaching and Learning

At Edwards Hall we use a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop deep conceptual understanding of mathematics, allowing for procedural flexibility, effective reasoning and varied problem solving.

We do this through a daily lesson, making use of whole-class, guided and group teaching. During these lessons we encourage children to ask as well as answer mathematical

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questions. 'In Focus' tasks are regularly used to develop high-quality discussion around concepts, procedures or misconceptions. In these tasks, children learn important social skills: listening to others and learning how to communicate any disagreements they may have with someone else's point of view. Effective use is made of concrete and pictorial resources during these tasks, which then feed into children's independent or guided group work. At Edwards Hall, we follow the **concrete, pictorial, abstract** sequence of learning, developing deep mathematical understanding and making connections between the different areas in the curriculum.

## Resources

At Edwards Hall, we recognise the important need for children to 'see' mathematical concepts and understand how they work as well as developing procedural fluency and flexibility. Consequently, concrete and pictorial resources play a key role in mathematics lessons. Resources are stored both centrally and within class, with teachers using them within whole class and guided group teaching; they are also available to children during independent work with children either being guided to specific resources or choosing the resource they feel would support them the most.

We also recognise the importance display has in the teaching and learning of mathematics, particularly through the building of connections between areas as well as a way of keeping prior learning active. Every class has a 'Maths Working Wall' which is a visual aid to support children with their work.

## Support and Challenge

Children are taught in mixed-ability classes, with the exception of year six where children are set by ability. We recognise that, within a class, there will be varying degrees of understanding; consequently, support and challenge is considered carefully when teachers plan their lessons so that children who need to consolidate previous learning to build effective connections are able to do so whilst other children are able to extend their learning and display deeper understanding.

Individuals or targeted groups are supported either by the class teacher or learning support assistants as per the school's Feedback Policy. Target groups (formed from analysis of data) are also supported by focused teacher input and in intervention groups.

## Early Years Foundation Stage

Teachers follow the revised Statutory Framework for the Early Years Foundation Stage 2012. This outlines the knowledge, skills, understanding and attitudes children will need in order to achieve the Early Learning Goals in Mathematics. These goals are intended to be achieved by most children by the end of the Reception Year.

In the Early Years, staff provide activities and experiences for children to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems and to describe simple shapes, spaces and measures. The children learn through planned, purposeful play experiences and through a mix of adult-led and child-initiated activity.

*See EYFS Policy for more details.*

## **Key Stages 1 and 2**

In Years 1-5, Maths is taught in class.

In Year 6, Maths is taught in sets, according to ability.

At Edwards Hall, lessons are planned from resources drawn from 3 key areas: White Rose Maths Hub, NCETM documents and Maths No Problem. However, we also recognise the need for the teaching of mathematics to be investigative and grounded in real life circumstances wherever possible. Teachers follow the long term overview provided by the White Rose Maths Hub although there is flexibility within this through the re-visiting of key concepts.

Mathematical achievement is also celebrated every week through our celebration assembly. Times tables certificates are awarded to those children who have achieved the gold award for their specific 'Timestable Mountain'.

## **Parental Involvement**

At Edwards Hall we recognise that parental involvement is an important factor in helping children achieve their best and actively encourage parents to become involved with their children's development in Mathematics through:

- Learning conferences twice a year, along with opportunities to look at children's work
- An annual written report on which there is a summary of their child's effort and progress in mathematics over the year
- The school's 'open' attitude to visits from parents/carers, where teachers make themselves available whenever a discussion need is identified;
- Use of the Homework Materials, Maths games and subscription to Education City online learning for use at home;
- Maths workshops for parents

Homework is set weekly as a consolidation or extension of work covered in school through the use of 'Education City'.

## **Assessment and Record Keeping**

At Edwards Hall we are continually assessing our children and recording their progress. We see assessment as an integral part of the teaching process and endeavour to make our assessment purposeful, allowing us to match the correct level of work to the needs of the children, thus benefiting the children and ensuring progress.

AfL is used to establish the children's starting points and to assess progress. Teachers keep notes on planning sheets relating to children's understanding to inform future planning, including intervention groups. As such, classes do not have 'Maths groups' as children are grouped according to their understanding of the specific area of learning as oppose to a 'general' mathematical ability.

Assessments are carried out at the end of each term in years 3-5 using the 'PUMA' tests. In addition, all teachers complete Key Performance Indicator (KPI) spreadsheets which are discussed as part of termly pupil progress meetings.

*See Assessment Policy for more details.*

## Marking and Feedback

Marking will be in line with the Feedback Policy.

## Special Educational Needs

At Edwards Hall we use our best endeavour to fully include SEN children in the daily mathematics lesson so that they benefit from the emphasis on oral and mental work and by listening and participating with other children in demonstrating and explaining their methods. Lessons are planned carefully to ensure a 'low entry, high threshold' approach (see Teaching and Learning).

Where appropriate, additional support and intervention may be developed with common objectives and learning targets.

*See SEN Policy for more details.*

## Contribution in Mathematics to Teaching in Other Curriculum Areas

At Edwards Hall, we recognise the need for children to understand how mathematics plays a part in other areas of the curriculum. As such, teachers ensure that they plan for opportunities for children to apply their mathematical skills to other subjects where there are authentic opportunities to do so.

## Role and Responsibilities of Phase Leaders and Mathematics Lead

- Monitor planning, teaching and learning in mathematics, to ensure continuity and progression;
- Monitor standards in mathematics throughout the school, including SEN, gifted and talented provision, LAC, etc.;
- To identify strengths and areas for improvement and lead and drive improvements within the school;
- Keep up to date with new initiatives and train staff on these (also to facilitate in or out of school training for staff);
- Feed back to the Headteacher on standards in mathematics

## Disability Equality Impact Assessment

This policy has been written with reference to and in consideration of the school's Disability Equality Scheme. Assessment will include consideration of issues identified by the involvement of disabled children, staff and parents and any information the school holds on disabled children, staff and parents.