



Mathematics Policy

The Corporation of Oundle School includes both Oundle School, a boarding and day School for pupils aged 11 – 18 and Laxton Junior School, a day School for pupils aged 4 - 11. This policy applies solely to Laxton Junior School.

Introduction

Mathematics introduces children to concepts, skills and thinking strategies that are essential in everyday life and supports learning across the curriculum. It helps children make sense of numbers, patterns and shapes in the world around them. It develops a child's ability to calculate, to reason and to solve problems. It offers ways of handling data in an increasingly digital world and makes a crucial contribution to their development as successful learners. It equips children with the skills that enable them to communicate ideas and information, and tackle a range of practical tasks and real-life problems. They learn to explore and explain their ideas using symbols, diagrams and language. Through their growing knowledge and understanding, children learn to appreciate how Maths has developed over time and contributes to our economy, society and culture.

Our Values

Driven by our five School Values (A Love of Learning, Opportunity, Care, Community and Quality), our School Mission is to prepare all our children for both their chosen senior school and the life that lies beyond. This preparation develops in them a series of essential characteristics that we believe will enable them to thrive in whichever direction they wish their lives to take. We want our children to be: Confident and Resilient, Kind and Respectful, Open-Minded and Well-Rounded, Collaborative and Independent. Our Maths curriculum is rooted in high-quality and meaningful opportunities for children to practice skills in each lesson, ensuring that learning demonstrates and enriches the school Values and Mission.

Aims

When teaching Mathematics we aim:

- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- To promote confidence and competence with numbers and the number system
- To develop the ability to think logically and solve problems, through decision making and reasoning, in a variety of contexts
- To develop a practical understanding of the ways in which information is gathered and presented
- To explore features of shape and space and develop measuring skills in a range of contexts
- To develop an ability to communicate ideas using mathematical language
- To stimulate curiosity and foster collaboration
- To develop resilience and a positive attitude when faced with mathematical challenges
- To develop an understanding of the importance of mathematics in everyday life.

Key Skills

Becoming confident and competent mathematicians is a complex process that requires a range of skills and experiences, naming: number fluency, reasoning and problem solving. We recognise the importance of establishing a secure foundation in number fluency, mental calculation and recall of number facts before standard written methods are introduced. Once pupils are secure in their understanding of a new concept they are encouraged to make connections between mathematical concepts, to reason and apply their understanding to a wide variety of contexts. We endeavour to set work that is challenging, motivating and that encourages the pupils to talk about what they have been doing and to support each other in their learning.

We encourage the children to develop their mathematics through:

- Concrete manipulatives
- Pictorial representations
- Mental strategies
- Written methods
- Practical and investigational work
- Problem solving
- Purposeful discussion and explanation

Our Approach

Curriculum

At Laxton Junior School, we follow the Power Maths scheme: a whole-class, textbook-based resource that is aligned with the National Curriculum. Through cumulative small-steps, our pupils build a solid foundation of deep mathematical understanding. Teachers use high quality, context bound problems from the Power Maths textbook as a teaching tool. Pupils further develop their understanding through practice questions in the Power Maths workbook. Questions within the workbook follow the same structure each lesson which ensures that pupils build Fluency, Reasoning and Problem Solving Skills.

Although the Power Maths scheme follows a carefully considered sequence of lessons, flexibility is built into the programme for teachers to pace learning according to their pupils and class. While some children will need to spend longer on a particular concept (through interventions or additional lessons), others will reach deeper levels of understanding through work which encourages them to delve deeper the same concept.

Planning

Long term planning is based on the yearly teaching requirements outlined in the National Curriculum. Throughout the school we use Power Maths teaching resources along with a variety of other schemes and equipment to support the teaching of mathematics.

The Power Maths scheme provides the basis for medium-term planning, making sure that key teaching objectives are covered. At Laxton Junior School, we recognise the importance of a clearly structured teaching and learning process that helps children master each concept securely and deeply.

Short term planning is carried out weekly but is flexible and responsive, allowing for appropriate intervention either within or after the lesson. Explanation and discussion are an integral part of our Maths lessons and reveal whether or not the children truly understand the concept they are learning about, enabling teachers to respond and address any misconceptions as they arise.

Teaching and Learning

At Laxton Junior School we aim to create a stimulating environment in which all children view themselves as mathematicians. To build such a culture, we approach Maths with the following in mind.

The Mastery approach sits at the heart of our Maths lessons. All pupils move forward together through a sequence of lessons and are encouraged to think deeply about maths. We believe that keeping the class together with a mastery approach drives engagement, confidence, motivation and success for all learners. Lessons are broken down into small, connected steps that gradually unfold the concept, providing access for all children. Representations are used in lessons to expose the mathematical structure being taught and pupils are given opportunities to discuss and reason their mathematical thinking. We value real understanding and richer, deeper learning above speed. Our pupils have plenty opportunity to practise recall of facts and procedures through programmes such as Times Table Rock Stars.

This, combined with a responsive approach to teaching ensure that all pupils achieve in their Maths lessons. Some pupils may require some additional support through the use of concrete manipulatives or scaffolded teaching, whereas other pupils may be tasked with applying their understanding of the same concept to a more complex scenario.

Differentiation

Although children follow the same sequence of lessons, teachers adapt lessons to ensure all pupils are supported and challenged on their learning journey. Differentiation strategies specific to Maths lessons may include:

- Type of tasks set
- Choice of learning activities offered
- Extent of teacher input, support and challenge
- Provision of different types of resource
- Organisation of the classroom
- Expectations of outcome
- Enrichment opportunities offered in class and out
- Questioning used to stimulate learning and understanding

Opportunity

There are many opportunities for our children to deepen and broaden their understanding in Maths. These include, exploring Maths through:

- Practical, real-life problems
- Use of concrete manipulatives, pictorial and abstract representations
- Use of interactive technology to engage with Maths problems
- Maths discussion amongst talk partners
- Open-ended questions that stimulate exploration

Adult Support

In EYFS pupils engage with mathematical concepts through continuous provision, with adults supporting and guiding understanding as and when children engage with a particular task. In Key Stage 1, each class has a Teaching Assistant whose role is to assist with the delivery of the Maths curriculum, whether it be through in-class support or through focused group work. In Lower Key Stage 2, classes share a Teaching Assistant.

Marking and Feedback

Marking and Feedback in Maths is inline with our school Marking and Feedback Policy. Verbal feedback is a powerful tool used by our teachers to highlight successes and to address any misconceptions. Colour coding and Marking Codes ensures that feedback is visual and immediately indicated to pupils when they need to revisit a particular Maths problem (see Marking and Feedback Policy). Pupils respond to feedback and make corrections to their Maths work using red polishing pen.

Learning Environment

Classroom environments are arranged in such a way to best support the children of that class. Concrete manipulatives are visible and easily accessed by pupils. Key vocabulary and pictorial models are displayed to support our children to both visualise and articulate the Maths they are learning in class. Stem sentences further support our pupils to explain concepts or problems using accurate vocabulary.

Homework

Pupils from Years 1 to 6 are set Maths homework on a weekly basis to consolidate their learning from the week and to revisit concepts learnt over the course of the year to ensure that all learning remains fresh. In addition to this, children from Years 2 to 6 are encouraged to practise times tables using Times Table Rock Stars, an online resource which is fun and engaging.

Assessment

Assessment is undertaken in accordance with our Assessment and Teaching and Learning Policies. We are continually monitoring and assessing our pupils to identifying their progress, this in turn informs our teaching next steps. We endeavour to make our assessment purposeful, allowing us to provide appropriate work for the needs of the pupils, thus benefiting their learning and ensuring challenge and progress.

Formative Assessments are an informal part of every lesson and are closely matched to the teaching objectives. Learning targets are given during each lesson, using WALTs (we are learning to) and Success Criteria, ensuring that all pupils have a clear understanding of what is to be learnt. Within each lesson, formative assessment happens continuously using a wide variety of Assessment for Learning techniques; this knowledge often requires a teacher's immediate attention and appropriate action to successfully support each child's learning journey. Planning of future work is then amended accordingly based on individual and group requirements. Pupils are also encouraged to check each other's work, to identify when learning objectives have been achieved, where improvements could be made and to promote discussion about different approaches and how a variety of strategies may be used effectively.

Summative Assessments are carried out twice a year throughout the school, when pupils' attainment is measured against school and national targets. These are a combination of written and computer-based assessments and results are recorded on the school's central assessment database.

EYFS

Our EYFS Maths follows the Power Maths small steps and is taught through the continuous provision model for learning, with clearly defined and engaging provision to give context to our pupils' learning. Within these areas of provision there is a core range of Maths resources that the children can use throughout the year. Carefully planned continuous provision enables our children to learn skills, challenge their thinking and helps them to embed new concepts. Furthermore, the provisions planned by teachers also provide context for 'Maths Talk' between children and adults, with rich opportunities for modelling and extending speech and vocabulary.

Alongside the continuous provision areas, pupils are taken to work in small groups to assess understanding of newly learnt concepts and to progress learning based on these assessments. Following a continuous provision model of learning alongside guided groups positively impacts our pupil's engagement, independence, collaboration, self-confidence, resilience, and curiosity in Maths.

Equality, Diversity and Inclusion

Equal Opportunities

We are an inclusive school and ensure that all children - irrespective of gender, race, religion and belief, cultural background, linguistic background, SEN or disability - have equal opportunity to access our Maths curriculum. We are committed to improving our curriculum, learning environment, provision of resources and mechanism for sharing information to enable all children to participate fully in our curriculum. Further details of our work, in this regard, are set out in our Accessibility Plan, with some of our ongoing strategies outlined below:

- Small class sizes enable greater personalisation of the curriculum
- Resources reflect positive role models and include a range of diversity
- Individual Education Plans enable staff and children to work on specific targets relevant to their needs
- Staff deliver a differentiated curriculum using a variety of appropriate resources to tailor the learning to all children
- Regular progress reviews take place with children and parents

Children are given regular, ongoing targets, and children in KS2 are aware of their own targets for learning.

The Maths curriculum is regularly reviewed to ensure it is appropriate for all children, and Maths teachers have the autonomy and freedom to adapt lessons to suit all learners.

Special Educational Needs and Disability (SEND)

Teacher observation, ongoing assessments and Pupil Progress Meetings support the identification of children in need of additional support in Maths. This support is provided by our Educational Support team. Support for accessing the Maths curriculum varies depending on the child and is developed in conjunction with the teaching staff and Educational Support teachers. Some children may receive one-to-one support whereas other may work as part of an intervention group. Children with Maths targets in their Education Support Plan will be supported in school to ensure that they are making progress with their identified area of need. For further details, please see our Educational Support Policy.

English as an Additional Language (EAL)

All children have an equal opportunity to access our curriculum and receive, if required, individual language support internally or externally depending on their first language. A culture of 'Maths Talk' supports our EAL learners to develop their language skills. The use of stem sentences further help our EAL children to express themselves mathematically and encourages accurate use of vocabulary. For further details, please see our EAL Policy.

More Able and Exceptionally Able

At Laxton Junior School, we ensure that our More Able and Exceptionally Able pupils are provided with plenty of opportunities to be stretched and challenged in Maths. Pupils are made to think deeply about Maths through rich and sophisticated problems and puzzles. These pupils are often encouraged to explore maths through open-ended questions which encourage exploration.

Beyond the classroom, More Able and Exceptionally Able pupils have numerous opportunities to explore Maths at events and competitions. Laxton Junior School hosts several 'Maths Challenge' events to which local schools are invited, such as Oundle Mathematics Enrichment Conference (OMEC) and a Maths Competition aimed at Year 5 and 6 pupils. Our More Able and Exceptionally Able Year 5 and 6 pupils also have the opportunity to take part in a series of Webinars hosted by ExpertEdLive, exploring intriguing problems that encourage mathematical thinking. For further details, please see our More Able and Exceptionally Able Policy.

Cross-Curricular Links

There are countless opportunities within other subject areas in which Maths is applied and developed:

- Science - pupils develop skills in data collection and analysis by conducting physical experiments, using units of measurement, calculating averages and interpreting results. Pupils record their findings using charts, tables and graphs.
- Humanities - in History lessons, pupils develop an understanding of time and measurements of time through discussions of historical events. In Geography, pupils develop skills in data collection and calculation through geographical field investigations. Pupils estimate and measure using mathematical equipment and record their findings using charts, tables and graphs.
- Art - pupils develop spatial reasoning skills and the ability to recognise patterns through artwork exploring shapes, symmetry, proportion, and measurement.
- French - pupils apply their understanding of Maths through counting, using money, telling the time and date.
- Music - pupils apply their understanding of Maths through counting and pattern recognition.
- Sport - pupils develop an understanding of position and direction through the use of mathematical language.
- Computing – pupils apply the principles and concepts of logic, algorithms and data representation using a range of computing programs.

Co-Curricular Enrichment

Events and Projects

We further enrich our Maths curriculum with a variety of Maths projects and events. A yearly Maths Day sees that our pupils are inspired and excited by Maths, exploring the creativity of the subject as well as making connections to the world in which we live. In addition to this, each half term, pupils from EYFS to Year 6 are posed an interesting, open-ended Maths question through the Marvellous Maths Project. Pupils can apply their learning in school to answer a question which is topical and relatable for the children.

After-School Clubs

Co-curricular provision further enriches the Maths curriculum at Laxton Junior School, with a variety of clubs involving maths, including:

- Chess Club – pupils develop an understanding of logic and strategy with the support of an expert chess player.
- Bridge Club – pupils develop strategy, numeracy and problem solving skills in this popular lunchtime club.
- Strategy Games Club – pupils develop an understanding of strategy through a range of games and are given the opportunity to explore different strategies as well as try out known strategies.
- Construction Club – pupils develop spatial reasoning skills. The children think about the spatial relationships between three-dimensional objects and designing a range of structures.

Outdoor Learning

Where possible, teachers use outdoor spaces to enhance the Maths curriculum, encouraging children to notice the connection between maths and the natural world as well as using natural materials to bring meaning to their learning. EYFS children take part in weekly Outdoor Learning sessions and are provided with activities rich in spatial reasoning, with places to squeeze through, navigate around and experience from different heights.

Monitoring Arrangements

The Maths Lead, with the support of the Assistant Head Academic, is responsible for the monitoring of their subject to ensure that the Maths curriculum meets the needs of our children. This includes ensuring that resources, CPD, and long and medium term planning are in place. The Maths Lead is responsible for conducting peer observations, team teaching and training to ensure that our curriculum challenges and supports all of our children.

Linked Policies

This policy is linked to:

- Assessment Policy
- Curriculum Policy
- Educational Support
- EAL Policy
- EYFS Policy
- Marking and Feedback Policy
- More Able and Exceptionally Able Policy
- Teaching and Learning Policy

Reviewer	Elme Marais
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