Dropmore Infant School

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Chair of Governors:	**Mr Tim Wicks**
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1 INTENT

At Dropmore Infant School we provide a high-quality, balanced and progressive Mathematics curriculum. We have embedded a mastery approach to Maths teaching, focussing on building pupils' understanding, confidence and independence through the use of concrete and pictoral representations alongside abstract notation. Through our mastery approach we allow for all children to become **fluent** in the fundamentals of maths, developing their conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. Children will be able to **reason mathematically** by justifying, making links to known facts, or providing proof using mathematical language. Understanding of concepts will be challenged through **solving problems** by applying their mathematic knowledge. We will equip children with the foundations of mathematics that are essential to everyday life. We have high ambitions for all pupils, including those with SEND, EAL and those from a disadvantaged background.

The aims of our mathematics curriculum provision are to support our children to:
- Have rich and enjoyable experiences;
- Build their conceptual understanding using concrete and pictorial representations;
- Develop positive and confident attitudes;
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof;
- 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;
- Develop the correct mathematical vocabulary;
- Work independently and collaboratively;
- Use technology to develop mathematical concepts;
- Use and apply mathematical knowledge to real-life contexts;
- Become fluent in the fundamentals of mathematics, including arithmetic and mental maths

2 IMPLEMENTATION

Our Mathematics curriculum is based on the expectations and aims of the 2014 National Curriculum for mathematics and the 2021 statutory framework for the Early Years Foundation Stage. Content is carefully sequenced through the year groups according to the mathematics progression map, which shows how each area of mathematics progresses as children get older.

Maths Mastery is fully embedded across all 3 year groups. Through a mastery approach all pupils acquire a solid enough understanding of the maths that's been taught to enable them to move on to more advanced material. All year groups use the White Rose Scheme of Work as a starting point in order to develop a coherent and comprehensive route through mathematics. The medium-term plans give details of the main teaching objectives for each term and define what we teach. They ensure an appropriate balance and distribution of work across each term, and ensure all areas of mathematics are taught.

The use of high-quality materials and tasks to support learning and provide access to the mathematics are integrated into lessons. These include:

- White Rose Maths Schemes of Learning and Assessment materials,
- Master the Curriculum planning and resources
- Number blocks NCETM resources,
- NRICH
- visual images and concrete resources.

Teaching sequence:

Lessons are taught in a series of structured blocks that are carefully chosen to build on prior knowledge. Each lesson is focused around a key new learning point which are explicitly taught alongside reasoning and problem solving. These lessons are designed to progress from each other building upon children learning and recalling previous learning.

A typical Key Stage 1 lesson is outlined below:

- Maths is taught daily in Key Stage 1.
- The children undertake a recall (flashback) activity at the start of every mathematics lesson.
- The pupils will use a range of concrete apparatus, pictorial representations and abstract representation to explore the problem and different ways of solving it. They may need to draw on prior knowledge to suggest how to solve this.
- The teacher will then lead the class in a discussion of their ideas encouraging children to ask as well as answer mathematical questions. We strongly encourage children to use correct mathematical vocabulary in full sentences when explaining their reasoning.
- A variety of examples will be modelled and discussed together after which children work collaboratively to answer guided practise questions.
- Children then work independently to complete a core task in their Maths Book.
- The lesson will finish with a challenge activity which is available to all children. This enables them to apply their new knowledge in different contexts and so deepen their understanding.

A typical Reception lesson is outlined below:

- There is a carpet session at least 4 times a week in Reception where the children are introduced to the mathematical concepts they will be covering that day or week. These sessions often involve a 'flashback' of previous learning.
- Smaller group work is carried out during the week with an adult, often using concrete 'hands-on' resources to supports their understanding of quantity and number.
- Children in Reception also explore mathematical concepts through active exploration and their everyday continuous provision

In Reception, Pupils explore the 'story' of numbers to twenty and the development of models and images for numbers as a solid foundation for further progress. The CPA approach is used when teaching children key mathematical skills. Mathematics in the early years provides children with a solid foundation that will enable them to develop skills as they progress through their schooling and ensures children are ready for the National Curriculum.

Progression:

For details of progression in Mathematics, see the following documents:

- White Rose Maths Scheme of Learning
- Dropmore Infant School Progression document – Mathematics

Enrichment:

Enrichment opportunities are carefully selected to enhance learning opportunities for children by demonstrating real life contextual understanding of mathematics. Dropmore children also take part in a number of activities outside of their Maths lessons including Dropmore shop and silver coin week.

3 IMPACT

The impact of our Maths curriculum is measured by:

- In school attainment tracking
- Teacher voice – staff meetings, questionnaires
- Pupil voice - questionnaires
- Subject leader monitoring – work scrutiny, learning walks, planning checks
- Governor monitoring – Governor meetings, learning walks, attendance at events

4 Teaching Mathematics to children with additional needs:

Through differentiation and our Mastery approach we ensure all pupils are able to master the mathematics objectives for their year group, irrespective of special educational or medical needs or protected characteristics. Differentiation for those that need further challenge as well as those that need additional support is incorporated into all mathematics lessons in a variety of ways:

- Daily use of hands-on equipment and pictorial representations
- Collaborative learning – frequent discussion in lessons, both with other pupils and adults to develop the use of correct mathematical language and the ability to explain their reasoning
- Revisiting concepts pupils found tricky at the start of the next lesson
- Pre-teaching concepts for those pupils identified
- Frequent verbal feedback
- Written feedback, addressing any misconceptions or providing next steps
- Opportunities to consolidate their understanding for those not sufficiently fluent
- Challenge through a range of problems for those grasping concepts rapidly
- Support or extension from the teacher or TA

5 Assessment and Recording:

Dropmore Infant School uses assessment to enable staff to understand what pupils have learnt before, what they need to learn now and what they will learn next.

Formative - Verbal feedback is given throughout the lesson to address misconceptions, support calculation methods, encourage mathematical thinking and develop confidence. Through ongoing formative assessment, the teacher checks pupils' understanding and adjust lesson plans accordingly

Summative – Summative assessment is completed termly based on the knowledge and skills for each unit. At the end of each school year, teachers make an annual assessment of progress. This is communicated to parents and passed on to the next teacher at the end of the year.

Marking – Children receive regular, in the moment feedback. Marking for Mathematics follows our marking and feedback policy.

Recording – Maths work is evidenced in the Maths books. This may take the form of photographs, pictures, notes or written work. It may be worksheet based or fully independent.

6 Roles and responsibilities

Here are responsibilities of various stakeholders. The lists are not exhaustive.

6.1 Headteacher

- Support the subject leader but also hold them to account for the effectiveness of the subject
- Support staff through the provision of training and resources
- Monitor the planning and delivery of the subject
- Ensure the requirements of the National Curriculum are met
- Ensure this policy is reviewed according to the timescales set out

6.2 Subject leader

The subject leaders at our school will:

- Prepare and review subject policy and curriculum plans
- Promote the study of the subject throughout the school
- Monitor the teaching and assessment of the subject
- Attend appropriate CPD
- Stay informed regarding developments in the study and teaching of the subject
- Evaluate resources
- Provide training and CPD to staff on the subject curriculum and its delivery, and keep them informed about subject developments nationally
- Assess the impact of the subject curriculum on pupils' learning and development

6.3 Governors

The governors at our school will:

- Monitor the impact of the subject across the school and on pupils
- Monitor teacher workload and professional development
- Ensure subject action plans are in use
- Keep track of pupil and parent engagement with the subject
- Keep up to date with the curriculum (what's taught, why it's taught, and how it's taught)

6.4 Classroom teacher

Classroom teachers at our school will:

- Plan, teach and assess the subject according to the principles laid out in this policy
- Report to the subject leader
- Maintain subject knowledge and appropriate CPD

7 Monitoring and review

This policy will be reviewed by staff and governors every 3 years

8 Equality Impact Assessment:

At Dropmore Infant School we provide a broad and balanced curriculum to all pupils, irrespective of special educational or medical needs or protected characteristics. Teachers provide learning opportunities that are matched to the needs of the children and ensure all children are able to take part in the activities planned. Every reasonable effort will be made to find activities that are both suitable and accessible and that enable the whole group to participate fully and be actively involved, irrespective of special educational or medical needs or protected characteristics.