

 **Lillington Nursery and Primary School**

 **Mathematics**

**Intent**

At Lillington, we want pupils to leave the school as confident, curious and resilient mathematicians who understand that mathematics is a vital tool for everyday life. Therefore, we believe it is essential that all our pupils develop positive attitudes towards mathematics and are willing to ask questions and be unafraid to make mistakes. To do this, all our pupils have access to a challenging, exciting and well-resourced curriculum that develops their fluency, promotes reasoning and enhances their problem-solving skills. At Lillington, mastery of mathematics is something that we want all pupils to continue acquiring throughout their school lives, and beyond.

**Implementation**

‘Teaching for mastery’ describes the range of elements of classroom practice and school organisation that combine to give pupils the best chance of mastering mathematics. Mastering mathematics means acquiring a deep, long-term, secure and adaptable understanding of the subject. At any one point in a pupil’s journey through Lillington Primary School, achieving mastery means acquiring a solid enough understanding of the maths that has been taught to enable them to move on to more advanced material.

**Mastery Principles**

* Teaching is underpinned by a belief that the vast majority of children can succeed in learning mathematics in line with national expectations for the end of each key stage.
* The whole class is taught mathematics together. The learning needs of individual pupils are addressed through careful scaffolding, skilful questioning and appropriate rapid intervention, in order to provide the necessary support and challenge. Additional resources and manipulatives are used to provide either extra support or greater depth and challenge within an objective.
* Number is placed at the heart of our curriculum, with regular practice of key facts and skills to ensure fluency in the fundamentals of mathematics.
* The reasoning behind mathematical processes is emphasised. Teacher/pupil interaction explores in detail how answers were obtained, why the method/strategy worked and what might be the most efficient method/strategy.
* Conceptual variation and procedural variation are used throughout teaching, to present the mathematics in ways that promote deep, sustainable learning.
* Carefully devised exercises employing variation are used. These provide intelligent practice that develops and embeds fluency and conceptual knowledge.
* Sufficient time is spent on key concepts (e.g. multiplication and division) to ensure learning is well developed and deeply embedded before moving on.

**Lesson structure and organisation**

* A mathematics lesson is taught every day.
* All units follow the Concrete – Pictorial – Abstract progression.
* Quick Maths is used to teach fluency every day, and there is a focus on the structures underpinning multiplication and division facts when teaching times tables.
* Every lesson begins with an anchor task, such as a true/false question, or a reasoning and problem-solving question taken from White Rose Maths.
* The class are kept together during teacher input with regular mixed ability discussions forming a key part of the lesson, with the exception of children with significant learning needs who are given tasks from personally set targets.
* Concepts are taught using varied representations, such as with base 10, place value counters and bar models.
* Every lesson ends with a whole class reasoning or problem-solving question, that all children are given the chance to access.

In Key Stages 1 and 2, we use White Rose Maths, which is influenced, inspired and informed by the work of leading maths researchers and practitioners across the world. It is an exciting mastery approach, designed to meet the needs of every child. Teachers supplement this scheme with resources from a range of sources, including Classroom Secrets and NRich, to provide additional support and challenge to those pupils that require it.  Alongside the White Rose Maths resources, teachers follow the calculation policy. The policy is split into mental and written methods, following the concrete, pictorial and abstract process to ensure children have a depth of understanding.

**EYFS**

Nursery and Reception teachers use the Development Matters framework to ensure mathematics is taught in line with the Early Learning Goals. Maths is taught organically in EYFS, using a range of resources (such as Numberblocks and White Rose Maths) and experiences. For example, there are adult-led sessions, small group sessions and opportunities for maths to be explored in continuous provision.

**Resources**

Whenever children encounter a topic that they have not previously been taught, concrete resources are used to help embed this new learning. Each class has an area dedicated to mathematics resources which should be easily accessible to all children, allowing them to become familiar with the relevant equipment. Children are encouraged to use practical and visual resources to support their understanding of concepts.

**Impact**

With the teaching of mastery embedded throughout the school, children at Lillington have a strong understanding of number, which allows them to make connections to other areas of maths with greater confidence. Additionally, as pupils are kept within the same concept within a class, deep mathematical discussions regularly take place, improving pupils verbal reasoning skills over time, whilst written reasoning is highly valued and encouraged in every lesson.

**Evaluation and Monitoring**

Maths in the school will be monitored regularly through:

* Book scrutiny
* Lesson observations
* Learning walks
* Assessments and data analysis
* Pupil voice