



#WeAreLemington



Lemington Riverside Primary

Maths Policy

Our Vision:

The language of mathematics is international. Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Our aim is for all children to think mathematically, enabling them to reason, solve problems and assess risk in a range of contexts.

Mathematics is integral to all aspects of life and we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them forever.

National Curriculum:

The objectives we teach are from the Maths National Curriculum 2014.

The national curriculum for mathematics aims to ensure 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 non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

At Lemington Riverside Primary, our Mathematics Mastery curriculum has been developed so every child can achieve in mathematics. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on fluency, problem solving, reasoning, the development of mathematical thinking and discussion are therefore essential components of the Lemington Riverside Primary approach to this subject.

Aims:

As a school, we place great emphasis on the children learning as much as possible through their own first-hand experience, in order to properly understand and acquire their knowledge and skills. We strongly value offering the children opportunities to use models and images to support their thinking, with teaching and learning following the Concrete Pictorial Abstract (CPA) approach. This approach is fundamental to our teaching and how the children encounter mathematics in school.

Concrete – children should have the opportunity to use concrete objects and manipulatives to help them understand what they are doing.

Pictorial – alongside this children should use pictorial representations. These representations can then be used to help reason and solve problems.

Abstract – both concrete and pictorial representations should support children's understanding of abstract methods.



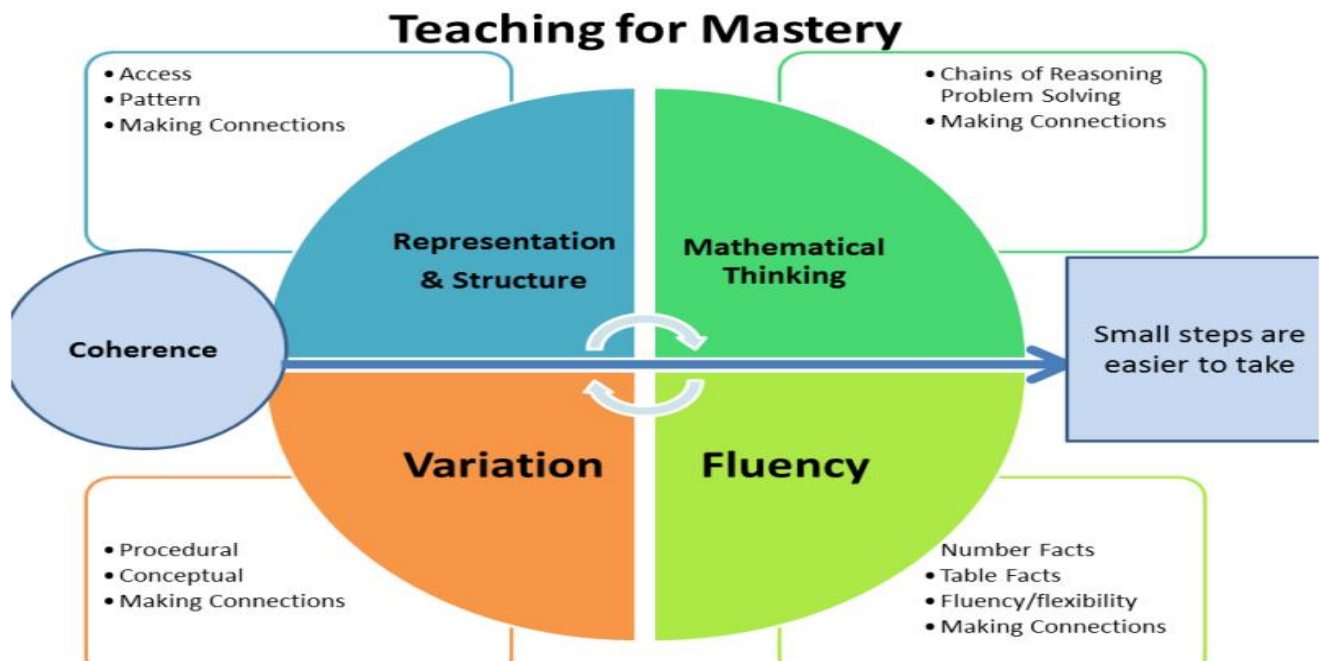
We aim to provide the pupils with a mathematics curriculum and high quality teaching to produce individuals who have mastered the key skills, are creative, independent, inquisitive, enquiring and confident. We look to provide the children with the opportunities to develop problem solving and reasoning skills needed within mathematics and across the curriculum.

Mastery approaches to mathematics and the national curriculum:

What does it mean to master mathematics?

A mathematical concept or skill is mastered when a pupil can represent it in multiple ways, has the mathematical language to communicate related ideas, and can independently apply the concept to new problems in unfamiliar situations. Mastery is a journey and long-term goal, achieved through exploration, clarification, practice and application over time. At each stage of learning, pupils should be able to demonstrate a deep, conceptual understanding of the topic and be able to build on this over time. This is not just being able to memorise key facts and procedures, which tends to lead to superficial understanding. Pupils should be able to select which mathematical approach is most effective in different scenarios.

The five 'Big ideas' of mastery:



We recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. We use accurate mathematical vocabulary in our teaching and children are expected to use it in their verbal and written explanations.

Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use Mathematics in real contexts. It is important that time is found in other subjects for pupils to develop their Numeracy Skills, e.g. there should be regular, carefully planned opportunities for measuring in science and technology, for the consideration of properties of shape and geometric patterns in technology and art, and for the collection and presentation of data in history and geography.

We endeavour at all times to set work that is challenging, motivating and encourages the pupils to think about how they learn and to talk about what they have been learning. Additional enrichment opportunities are provided for pupils to further develop mathematical thinking e.g. through cooking, music, and maths investigations and games.

At Lemington Riverside we believe that if firm foundations are established in key mathematical concepts then children are able to develop a deeper and more cohesive understanding of complex mathematics as they develop.

Teaching approaches:

Teachers use a range of teaching strategies to engage the children in maths and ensure progress is made by all children within a class.

Lessons are pitched at end of year expectations. Content are progressive and challenging for all. Lessons might be slow paced or fast paced; depending on how the children grasp the concept. Lessons will include fluency, reasoning and problem solving.

Teachers will differentiate questioning to promote deep learning. Children can be challenged or extended through giving deep, challenging tasks; peer tutoring; designing and solving their own problems; being asked to explain and reason more often; and to be encouraged to provide more mathematically accurate answers. SEN working well below their year group expectations will follow the expectations of their working year group and programme of study adapted accordingly. Differentiation when following the mastery approach to teaching mathematics may be through questioning and outcome.

On other occasions there may be opportunities to develop skills and understanding of mathematics through additional activities, some of which may take place at home. The school has invested in **Times Table Rockstars** and **Active Learn** which are accessible learning platforms that can be used to set differentiated homework for pupils. Children are given extra support, in addition to the daily maths lesson, if needed, in order to close the gap. This may include **Rapid Maths** intervention and **Times Tables Rockstars** or any other intervention that the teacher decides to use, to close the gap.

Formative Assessment:

Teachers integrate the use of formative assessment strategies such as effective questioning, clear learning objectives, the use of success criteria and effective feedback and response in their teaching.

Summative Assessment:

Using termly tests, pupils are assessed against the NC using the schools in house assessment system. The school's progress tracking system (iTrack) is updated termly. Year 2 and 6 use the DFE guidance to help them assess the children in order to be sure of accurate levels. Teachers also cross moderate a selection of children to ensure accuracy in Key Stage 2 Meetings

National Curriculum tests are used at the end of KS1 and KS2; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments.

Assessments are completed half termly using the test papers on the **Active Learn (Abacus)** programme, results are uploaded into the data base to identify attainment of pupils.

All assessments and teaching informs teachers understanding of a child's ability in maths and this is recorded on our school tracking system.

The school's Assessment and Marking Policies inform high quality feedback and pupils' responses in Mathematics.

Early Years Foundation Stage (EYFS)

We follow EYFS curriculum guidance for Mathematics supplemented by White Rose and Abacus. We are also committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts. Pupils initially explore numbers to 20 and the development of models and images for numbers as a solid foundation for further progress. Pupils are involved in manipulating numbers through calculation processes. Pupils also learn about shape space and measure through a range of hands on, practical activities, tasks and games.