Maths

The language of mathematics is international. The basic skills of mathematics are vital for the life opportunities of our children. Our aim is for all children to think mathematically, enabling them to reason, solve problems and use a wide range of subject specific knowledge and understanding in a range of contexts.

At Lytchett Matravers Primary School, our Mathematics Mastery curriculum has been developed to ensure that every child can achieve excellence in mathematics. Children can experience a sense of awe and wonder as they solve a problem for the first time, discover different solutions and make links between different areas of mathematics.

At the heart of our maths curriculum is the belief that all children can achieve. We aim to spark curiosity and excitement and nurture confidence in maths. We also reject the idea that people simply ‘can’t do’ maths. Our process is built around mathematics in context, inclusive provision, positive engagement, deliberate practice and a willingness to see mistakes as learning opportunities.

Our philosophy is that being successful in maths is not just about rote-learning procedures and methods, but is instead about problem solving, thinking and discussing.

We focus on providing pupils with a deep understanding of the subject through a concrete, pictorial and abstract approach (‘CPA’):

* **Concrete representation**- first introduced to an idea or skill by acting it out with real objects. This is a ‘hands on’ component using real objects and is a foundation for conceptual understanding.
* **Pictorial representation**– once they have sufficiently understood the ‘hands on’ experiences, they can now relate them to representations, such as a diagram or picture of the problem (either through drawing it or it already being represented)
* **Abstract representation**- they are now capable of representing problems by using mathematical notation, for example 12 x 2 = 24.

This process begins in EYFS through engaging the children in practical application of maths through a range of resources and equipment, forming the foundations for future learning. Children gain conceptual understanding as they are moved from physical application to visual and then, when appropriate, manipulating maths in the abstract as they progress through the curriculum years.

Within our maths lessons, we use a wide range of resources, including White Rose, NCETM Mastery documents, NRICH problems and other mastery problems sourced from elsewhere. It is important that conceptual understanding, supported by the use of representation, is secure for all procedures. Reinforcement is achieved by going back and forth between these representations.

We recognise the impact of deliberate practice in securing long term learning and to support mathematical fluency and recall. Our children complete daily reinforcement tasks at the start of their lessons and regularly revisit learning in order to consolidate their understanding. This embedded knowledge is further supported by the ‘Key Instant Recall Facts’(‘KIRFs’) which are set, shared and rehearsed for each year group on a half termly basis.

For each year group, the curriculum is broken down into core concepts and taught in units. A unit divides into smaller learning steps which are delivered in daily lessons. Step by step, strong foundations of cumulative knowledge and understanding are built.

We are currently continuing to develop our Maths Mastery approach to the teaching of maths, within the objectives of the National Curriculum. EYFS, Year 1, Year 2 and Year 3 are following the NCETM Prioritisation Curriculum to ensure children are gaining a deep-rooted understanding of mathematics to form a secure foundation for future learning. Years 4, 5 and 6 follow the White Rose curriculum, with consideration for curriculum adaptation to the NCETM curriculum in future years as children come through into these years having completed prior learning within this approach.

**The National Curriculum Aims**

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 with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.