

How do we teach Maths at Owston Park Primary Academy



At Owston Park Primary Academy we have adopted a mastery approach to Mathematics in order to deliver the three aims of the National Curriculum, fluency, reasoning and problem solving. Underpinning this pedagogy is a belief that all children can achieve in Maths. We believe in promoting sustained and deepening understanding by employing a variety of mastery strategies, with teaching for conceptual understanding at the heart of everything we do. Our approach aims to provide all children with full access to the curriculum, enabling them to develop independence, confidence and competence - 'mastery' in mathematics in order to be independent mathematicians who are well equipped to apply their learning to the wider world.

Children at Owston Park Primary Academy follow the Mathematics Mastery (MM) programme of learning in Years R to 5 and elements of MM in years 6. We have committed to a Mastery programme, rolling this out to one-year group at a time, year on year, until Mathematics Mastery is the main programme of study across all year groups. The Mathematics Mastery curriculum is cumulative - each school year begins with focus on the concepts and skills that have the most connections, and this concept is then applied and connected throughout the school year to consolidate learning. This gives pupils the opportunity to 'master maths', by using previous learning throughout the school year. These skills are developed by applying the 3 Dimensions of Depth to teaching and learning:

1. Conceptual understanding
2. Language and communication
3. Mathematical thinking

With Problem solving at the heart of Mathematics teaching and learning.

These underpin the Mathematics Mastery approach because together they enable pupils to develop a deep understanding in mathematics. If a pupil has a meaningful understanding of the maths they are learning, they will be able to represent it in different ways, use mathematical language to communicate related ideas and think mathematically with the concept. This will enable them to apply their understanding to a new problem in an unfamiliar situation.

We help children to develop their Mathematical language and communication skills by encouraging all pupils to answer mathematical questions in full sentences with a focus on the correct mathematical vocabulary and through the use of sentence stems for mathematical reasoning. Mathematical vocabulary is shared at the start of each lesson with an expectation that

this is used during 'Talk Tasks' with their peers and throughout the lesson. One of the reasons we explicitly teach mathematical language and insist on all pupils using it in sentences is because of the complexity of the language required to be a competent and confident mathematician. Mathematics has a precise formal language, which is distinct from everyday language.

Maths Meetings are a vital part of the Mathematics Mastery programme and are used to consolidate key learning outside of the maths lesson. Maths Meetings provide an opportunity to teach and revise 'general knowledge maths' which may not explicitly be covered during the maths lesson. This enables pupils to practise applying concepts and skills on a regular basis, meaning they are continually building on their mastery of these concepts. These are taught in all classes at OWSTON PARK PRIMARY ACADEMY either daily for 15 minutes in Nursery or for 15 minutes four times per week.

At the centre of the mastery approach to the teaching of mathematics is the belief that all pupils have the potential to succeed. They should have access to the same curriculum content and, rather than being extended with new learning, they should deepen their conceptual understanding by tackling challenging and varied problems. Similarly, with calculation strategies, pupils must not simply rote learn procedures but demonstrate their understanding of these procedures through the use of concrete materials and pictorial representations.

Children show enthusiasm towards their Mathematics Learning and can talk confidently about their learning. They enjoy talk tasks and are able to explain their learning to both their peers and other adults.

Each Mathematics Mastery lesson, is provided in a six-part lesson structure. The Dimensions of Depth underpin the six-part lesson. Each part provides opportunities to focus on conceptual understanding, language and communication and mathematical thinking for the mathematical concept being covered. The six-part lesson consists of:

- Do Now: This is a quick five-minute task that all pupils can access without any teacher input as an introduction to the mathematics lesson.
- New Learning: The New Learning segment introduces the lesson's main mathematical concepts.
- Talk Task or Let's Explore: The Talk Task or Let's Explore is a chance for all pupils to practise using mathematical vocabulary related to the lesson's concept.
- Develop Learning: This segment builds on the New Learning and develops a deeper understanding of the maths concepts of that lesson. It also addresses misconceptions or inaccuracies discovered during the preceding segment.

- Independent Task: The Independent Task provides pupils with the opportunity to practise the learning from that lesson. This may be independently and/or in pairs/small groups.
- Plenary: The Plenary segment recaps on the lesson, checking understanding and celebrating success

At OWSTON PARK PRIMARY ACADEMY, Teachers may use a variety of these parts of the lesson, depending on the lesson being taught and the children's understanding and development. This may be anything from a 3-part to a 6-part lesson.

In Year 6 we loosely follow the MM scheme of work but have designed our own curriculum to offer the best opportunities for closing gaps. We have analysed the objectives to be taught from the National Curriculum. We aim to revisit the entire curriculum by the end of term 2 to give plenty of time to address gaps in learning with regards to the end of key stage expectations and for Secondary readiness.

How do we assess Maths at OWSTON PARK PRIMARY ACADEMY

Maths is assessed through ongoing formative assessment through questioning, marking and Maths Meetings. We also have bi termly summative assessments using our in house assessments. These are assessed against what we have taught rather than against the end of the year expectations.

We have pupil progress meetings 3 x per year. From these discussions and our classroom practice, we identify children who need additional support. Wherever possible we address and close these gaps through first quality teaching and the use and direction of adults in the classroom.

How do we monitor Maths at OWSTON PARK PRIMARY ACADEMY

Maths is monitored through a mix of SLT whole school monitoring and also by the Maths Lead. As part of this we have team teaching and lesson studies to support teachers and as a form of CPD. The Maths lead also gathers pupils voice by speaking to children about their learning

Maths CPD

As a school we work alongside our Trust schools to help share good practice and observe excellent teaching.

The Maths lead takes part in regular CPD through the Mathematics Mastery programme and this training is disseminated to staff regularly.