

Logo

We create a love of learning where everyone is respected and encouraged to reach their full potential.

Each individual academy in the Wessex Learning Trust is encouraged to maintain its own distinctive ethos, be at the centre of their community and raise aspirations and achievement. This is achieved in two ways: firstly, through excellent teaching to inspire curiosity, unlock talents and realise potential; and secondly, by ensuring high quality care, guidance and support that ensures the personal development and welfare of each child.

Maths at Mark - Intent

At Mark First & Pre-School CE Academy, our intent is to support children in developing a love of maths by providing them with a wide range of practical opportunities to make sense of the mathematical world around them. From measuring in 'real life' situations, learning about maths in careers, using maths in our beautiful outdoor environment, to developing the ability and confidence to solve a variety of mathematical problems that require a deep level of thinking. We believe that acquiring a good understanding of the number system (number sense) and the ability to quickly recall number facts is key to children gaining a deep understanding of the subject. We aim to plan high quality lessons that meet the needs of all children and aim to ensure that every child feels valued, confident and able to participate in every Maths lesson.

We hope that by reading this information you will understand how ambitious we are for your child, how we want to see them achieve in all areas during their time at Mark, and how we want them to fully enjoy their learning, no matter their starting points.

What Mathematics looks like at Mark



Our intent is:

- To swiftly identify pupils who fail to grasp a concept and enact early intervention so the pupil is ready to move forward with the whole class (Maths Mastery approach)
- To deliver a Maths Mastery approach to provide pupils with a deep understanding
- To introduce units of maths in a logical order and revisit them throughout the year to encourage deep learning
- To become **fluent** in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- To **reason** mathematically by following a line of enquiry and develop and present a justification, argument or proof using 'expert' mathematical language
- To be able to **solve problems** by applying mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts

How we teach Mathematics at Mark – Implementation

When it comes to being successful Mathematicians, we have clear expectations for staff and children and we continue to develop methods to help parents support their child at home.

We follow the NCETM CP programme – a Maths Mastery approach - and compliment this with Mastering Number in EYFS – Year 2. This approach ensures topics are introduced to children in a logical order and ensure children have the number sense and foundational knowledge they need, before moving on to more advanced maths concepts and tackling more challenging number problems.

The teaching of maths is underpinned by the NCETM's 'Five Big Ideas'

Coherence

Teaching is designed to follow small steps that develop a learning progression through the curriculum. This provides all pupils to develop a well rooted and connected understanding of mathematics that they can apply to a wide range of contexts.

Representation and Structure

The representations used in our lessons are carefully selected by the class teachers. They aim to enable children to 'see' the maths rather than relying on representations as a tool to 'do' the maths. These representations become embedded for children to use when thinking about and discussing mathematics. In turn, this supports them to reach a deeper level of understanding mathematical structures and connections.

Mathematical Thinking

Mathematical thinking is central to how pupils learn mathematics and includes looking for patterns and relationships, making connections, conjecturing, reasoning, and generalising. Every maths lesson provides children with time to engage in mathematical thinking, allowing them the opportunity to discuss ideas using precise mathematical vocabulary.

Fluency

The ability to recall key number facts is essential for children to be able to move between different concepts and representations and to choose the most efficient methods to solve problems.

Variation

Variation has two parts. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

In Reception class, Year 1 and Year 2, the Mastering Number Programme is used to provide daily sessions and aims to secure firm foundations in the development of good number sense. 'The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future'. The programme supports children by seeing and saying numbers, knowing how numbers are made and using numbers flexibly to solve problems.

In the Early Years

The Mastering Number programme informs our termly overview for Early Years and aims to embed the fundamentals of Mathematics. This programme supports children in diving deeper into what a number actually is and the range of ways in which a number can be represented.

In Key Stages 1 and 2

The NCETM Curriculum Prioritisation in primary maths is used to inform our termly overviews. Although the programme suggests a time frame for each unit of maths throughout the year, this can be flexible when responding to the needs of the children/cohort.

As a school we use White Rose, Classroom Secrets, Twinkl 'Diving into Mastery', nrich, Times Tables Rockstars and NCTEM resources to support our teaching strategies. Daily Mathematics lessons incorporate skill-based activities with plenty of opportunity for the children to talk. The children then complete a fluency task followed by a choice of problem solving and or reasoning tasks to consolidate, broaden and deepen their understanding of the lesson objective.

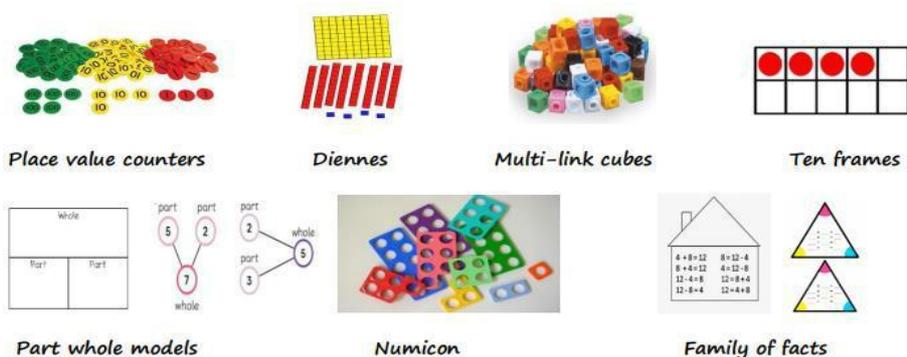
Tailoring the curriculum:

Class teachers tailor the content of each lesson to suit the needs of their children, ensuring all children are exposed to key elements of the lesson whatever their ability, with a member of staff always available to support children who need support or challenge. We follow the 'I do, We do, You do' approach when teaching to guide children when grasping new concepts and developing their level of independence and confidence.

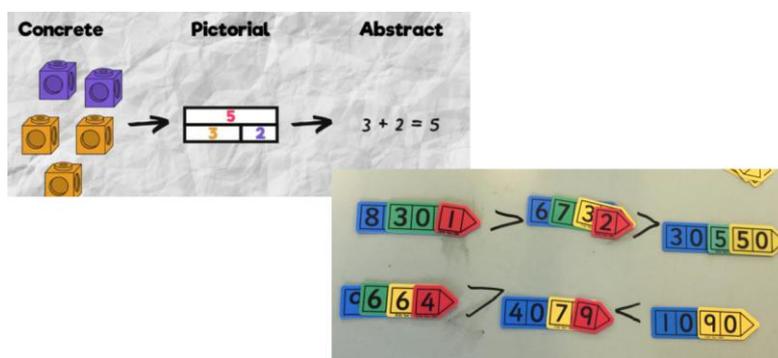
We pride ourselves on teaching mathematical vocabulary explicitly, so the children gain a deep understanding of subject specific language and have focused opportunities to understand, practice, and retain complex terms that are crucial for academic success and future careers. Questioning is used effectively to dive deeper into the children's knowledge within mathematics.

Practical resources:

A range of concrete and pictorial resources are used to embed confidence within Mathematics and ensure our pupils are exposed to a variety of different representations.



We use the CPA process (Concrete, Pictorial, Abstract) as a teaching method in mathematics that guides students from tangible, hands-on experiences to visual representations and finally to abstract mathematical symbols to build a deep and lasting understanding of concepts.



Using concrete objects is the 'doing' stage where children can model problems and have physical experiences of maths using equipment such as a base 10 (diennes), numicon, place value counters etc. Pictorial is the 'seeing' stage using representations of the objects to model problems. This stage encourages children to make a mental connection between the physical object and abstract levels of understanding by looking at and/or drawing a range of representations such as part-part whole models, bar models, diagrams and images. Abstract is the 'symbolic' stage, where children are able to use abstract symbols to model problems without relying on concrete or pictorial representations.

How we make Mathematics exciting and motivating for the children

Placing a positive emphasis on maths, developing a maths ethos and modelling a love of the subject are three of the fundamental ways we aim to motivate children. Making explicit links to how and where maths is involved in our every-day lives both motivates and inspires children to understand the importance of this subject. Celebrating understanding rather than speed and perfection enables every child to be involved in lessons and maths tasks and developing a 'grow your brain' mind set reassures children that it's o.k to make mistakes as this is how we learn.

Using peer coaches, such as TT Jedi, is another way that children at Mark feel motivated and empowered. Supporting their peers with developing a fast recall of multiplication and division facts and celebrating their success is another aspect of motivating children to take control of their learning and succeed.

How we assess Mathematics

Quality First Reflective Teaching: We use this to inform our planning and adapt teaching strategies and resources to support every child's needs. In KS1 and KS2, children are encouraged to complete a self-assessment task to take ownership of their learning and reflect on their achievements.

Tracking the progress that children make when recalling number facts allows us to provide extra support where it is required. Children use 'All About *' cards to support their learning of addition and subtraction facts and become a member of the '77 Club' to progress through recalling the multiplication and division facts. Half termly MTC assessments are also completed to track children's progress when preparing for the MTC.

During lessons, teachers actively give verbal feedback and guidance to support the children's learning and confidence within their own abilities.

End of unit assessments from the NCETM are used to assess the specific skills taught in the unit through fluency, reasoning and problem solving questions. These are added to the children's maths books.

Standardised Assessments: In Years 2, 3 and 4, pupils undertake three termly assessments using Testbase materials. These assessments help teachers to inform their overall teacher judgments three times across the year and provide discussion in Pupil Progress Meetings.

Bromcom: We input data at the end of each term of teaching. We assess whether the children are working significantly below, working towards, working at the expected standard or working at greater depth. Ongoing formative assessments plus the Testbase assessment papers are used to inform teacher assessment.

How we help children who find Mathematics difficult

We use quality first teaching to support children who find maths difficult. We adapt our planning to suit individual needs and use a range of concrete and pictorial resources to support the children's learning. We also ensure support and consolidation is planned into maths sessions.

Intervention groups are run by class LSAs/TAs (or CTs where possible). These sessions focus on the pre-teaching to bridge the children's gaps in knowledge or 'keep up' sessions to support the children to fill the gaps in their understanding. Observations and notes are made on the children's progress.

If required, children with specific needs are given an ILP which contains SMART targets that the children will work towards to help support their understanding in maths.

How parents can help their children with Mathematics

We ask that **multiplication facts and number bonds** are practised at home. We also send out a weekly or fortnightly homework for children to complete at home. Our termly homework menus also contain some suggestions for maths homework tasks. We provide a digital platform, through Times Table Rockstars, which provides additional opportunities to explore and recall their number and multiplication facts.

However, playing, building, measuring, baking, reading signs, talking about time/timetables and so many other everyday activities are full of mathematical skill. These opportunities are often the most powerful way parents can support their children at home.

How we celebrate Mathematics - Impact

By the end of Year 4, we aim for children to be fluent in the fundamentals of mathematics with a conceptual understanding and the ability to recall and apply knowledge rapidly and accurately to solve problems. We strive for children to be able to show their deep level of understanding of the subject through talking enthusiastically about their work using precise mathematical vocabulary. Pupils can independently apply taught concepts when solving problems and they can make links between maths and other areas of learning and subjects. Children show confidence when recalling number facts and show an enjoyment towards making progress in this area. Resilience and a growth mind-set are evident when children talk about their learning, and they take pride in their work.

In our classrooms, our maths working walls show the journey of our maths learning and act as a celebration of the learning we have achieved. Certificates are awarded to children from each class during our Celebration Assembly and can be maths related. Parents are also invited to attend to celebrate these achievements with us. Children are rewarded with house points when they move on to the next level of number facts cards and are invited to move their name along the tracking display within their classrooms. Careers days are held where parents are invited into school to share how they use maths in their day to day working lives. Children have carried out calculation tasks led by an accountant and capacity tasks led by a nurse. In year 4, children take part in Enterprise Week where they design and make products to sell and calculate their income, expenditure and profit. The winning team celebrates by deciding what to spend the overall profit on. This is always a huge celebration of maths in action!