

DOWNTON CHURCH of ENGLAND VA PRIMARY SCHOOL



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Maths at Downton C of E Primary School

Our Aims:

At Downton Primary School we have high expectations of children and believe that all children can succeed in maths. We want to equip our children with the skills that they need to be successful in the ever changing world that surrounds us. Our aim is to ensure that all children have the confidence and resilience to solve a range of problems through fluency with numbers and mathematical reasoning.

Our Mastery Journey:

Over this academic year, we have been developing our pedagogical approach to teaching maths. In Key Stage One, we have adopted a Teaching for Mastery Approach to mathematics. Mastery of mathematics is a teaching methodology adopted by the most successful countries in Asia, ranking highest in the world in terms of mathematical attainment by the age of 15.

The 2014 curriculum encourages a mastery approach and introduction of the 'Expected Standard' for each year group emphasises the importance of children achieving sets of key skills and knowledge. This approach dictates that children, once meeting the objectives, are extended through questioning, deep analysis and exploration to broaden their knowledge. Thus ensuring that concepts are fully and securely understood before moving onto new objectives.

The benefit of this approach is it caters for all styles of learners, ensures secure learning for higher attaining children and time and support for children that find Maths more challenging to keep up with their peers

The three aims of the National Curriculum (Fluency, Problem Solving and Reasoning) are still addressed daily and underpin our planning and teaching (The National Curriculum is a mastery curriculum).

This academic year we are initially introducing a whole class Teaching for Mastery approach in Years 2 and Year 1 during Term 5 and 6. This will be gradually extended throughout the year as we upskill and develop our teachers subject knowledge and pedagogy. In years R, 4, 5 and 6 we are beginning our mastery journey by exploring the '5 big ideas' and introducing key elements.

What does it look like in the classroom?

You will find the teacher engaging in whole class teaching, developing carefully scaffolded examples to build knowledge through small steps. Children will use a range of fine manipulatives (diennes, rods, counters, tens frames or Numicon) to explore new concepts with a great emphasis on securing knowledge of Place value before anything else. Children will draw pictures to represent their objects and use part part whole, bar modelling and number lines to show these representations.

Children spend much longer than previously on core concepts to ensure that they are secure and embedded before moving onto new learning. Children who grasp concepts quickly will be encouraged to go to Greater Depth (Star Challenge) and use and apply that knowledge to different situations,



solving problems and completing investigations. Children who are struggling to grasp concepts are not given easier work to do but are supported through targeted and immediate intervention or use of resources. Questions will be used to probe children's understanding and key sentence stems will be used to embed key learning.

Exploring Mastery in the Early Years:

In Early Years, children explore mathematical concepts through active exploration and their everyday play based learning. Children are taught key concepts and application of number using a hands on practical approach. Following NCETM guidance, we have introduced Numberblocks to support the introduction of key concepts. EYFS practitioners provide opportunities for children to manipulate a variety of objects which supports their understanding of quantity and number. The CPA approach is used when teaching children key mathematical skills. Practitioners allow children time for exploration and the use of concrete objects helps to support children's mathematical understanding. Maths in the early years provides children with a solid foundation that will enable them to develop skills as they progress through their schooling and ensures children are ready for the Nation Curriculum.

A Growth Mindset:

Having a growth mindset is something we instill in all of our children. We believe that all children can achieve in maths. Our belief is that pupils are neither 'born with the maths gene' nor 'just no good at maths. With good teaching, appropriate resources, effort and a 'can do' attitude all children can achieve in and enjoy mathematics. Developing children's perseverance and resilience is an important part of our maths teaching.

Impact:

In order to measure the impact of our pedagogy and approach we will be carrying out:

- Book moderation within professional development meetings. This allows the whole staff to ensure consistency across classes and facilitates a professional dialogue where ideas are shared.
- Learning walks to observe mathematical talk and questioning within class. This enables SLT and maths lead to observe the impact of language on children's ability to reason verbally, a skill that is key to developing written reasoning.
- Leadership observations.
- Data scrutiny
- Pupil voice – we talk to our children and ascertain their perceptions of themselves as mathematicians which informs the way we present our learning.

Further Reading:

www.ncetm.org.uk/resources/45776

www.ncetm.org.uk/public/files/19990433/Developing_mastery_in_mathematics_october_2014.pdf

