

St Catherines' R.C. Primary School

Maths Mastery Statement 2020

Our aim at St Catherines', is for all children to enjoy maths and have a secure and deep understanding of fundamental mathematical concepts and procedures when they leave us to go to secondary school. We want our children to see the mathematics that surrounds them every day and enjoy developing vital life skills in this subject.

Using the programmes of study from the National Curriculum 2014 it is our aim to develop:

- A growth mindset and positive attitude towards mathematics.
- Competence and confidence in mathematical knowledge, concepts, and skills.
- An ability to become problem solvers, who can reason, think logically, and work systematically and accurately.
- An ability to use mathematical language.
- An ability to use and apply mathematics across the curriculum and in real life.
- Confidence to become independent learners and to work co-operatively with others.

In September 2020 St Catherines' began transitioning towards a mastery approach to the teaching and learning of maths. We understood that this would be a gradual process and take several years to embed. The rationale behind changing our approach to teaching maths lay within the NCETM Maths Hub Programme, which states:

- The expectation is that most pupils will move through the programmes of study at broadly the same pace.
- Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content.
- Those who are not sufficiently fluent with earlier material should consolidate their understanding, through additional practice, before moving on.

At St Catherines' we view the Mastery approach as a set of principles and beliefs. This includes a belief that all pupils are capable of understanding and doing mathematics, given sufficient time. Pupils are neither 'born with the math gene' nor 'just not good at math'. With good teaching, appropriate resources, effort and a 'can do' attitude all pupils can achieve and enjoy mathematics.

Mastering maths means acquiring a deep, secure and adaptable understanding of the subject. Central to the development of mastery are the five big ideas – these have been drawn from research evidence, underpinning teaching for mastery. Since September we have been using 'Power Maths' – a scheme of work which underpins the five big ideas of maths mastery.

Coherence

Connecting new ideas to concepts that have already been understood, and ensuring that, once understood and mastered, new ideas are used again in next steps of learning-all steps being small steps.

Representation and Structure

Representations used in lessons expose the mathematical structure being taught. These representations are practical and pictorial models. The aim being that students can do the maths without recourse to the representation.

Mathematical Thinking

If maths concepts are to be understood deeply, they must not merely be passively received but must be worked on by the student thought about, reasoned with and discussed with others.

Fluency

Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics. Procedural fluency is the ability to apply procedures accurately, efficiently, and flexibly; to transfer procedures to different problems and contexts; to build or modify procedures from other procedures; and to recognize when one strategy or procedure is more appropriate to apply than another.

Variation

Varying the way a concept is initially presented to students, by giving examples that display a concept as well as those that don't display it. Also, carefully varying practice questions so that mechanical repetition is avoided, and thinking is encouraged.

CPD – Transition to teaching for mastery

Since September 2020 the staff at St Catherines have implemented the use of Power Maths across the key stages. We have taken part in a series of training sessions to enable us to have a growing understanding of mastery and how best to develop our own maths practice (individually and as a school). The maths lead and a teacher from KS1 – have also joined a Developing Schools work group that is run by a Primary Maths Specialist within the Jurassic Hub. They will meet 6 times a year to share practice and learn how to implement maths mastery. This is then shared with the rest of the school during staff meetings.