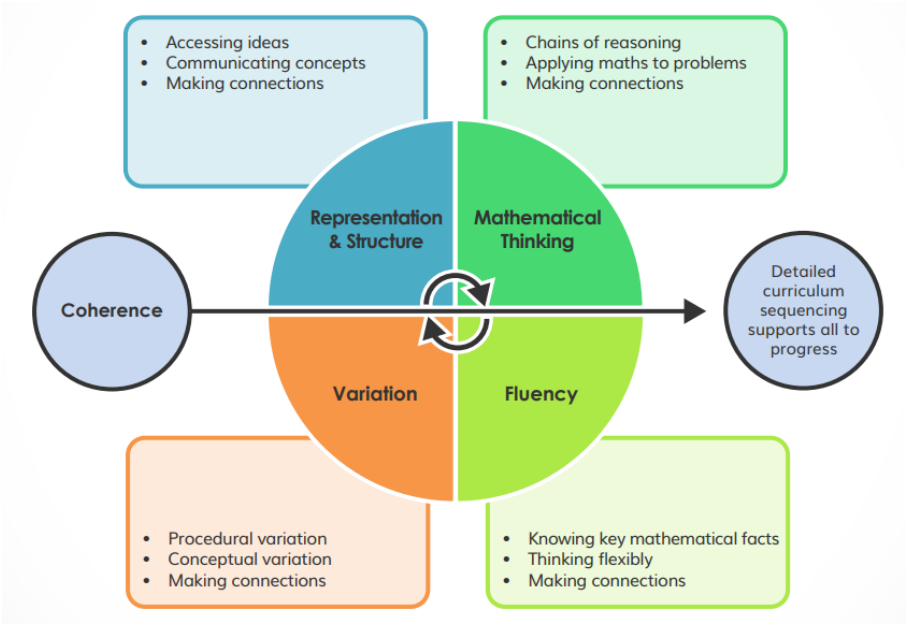
CHILTON FOLIAT CofE VA PRIMARY SCHOOL

Mathematics Curriculum Offer



National Curriculum

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

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 into a series of simpler steps and persevering in seeking solutions.

Mathematics at Chilton Foliat

Here at Chilton Foliat mathematics is based around the fundamentals of 'thirsting for knowledge', having the courage to challenge ourselves and to strive to succeed in

all we do. The structure of our maths curriculum helps to ensure that all our children leave Chilton Foliat having mastered the taught mathematical concepts which are broken down into small achievable steps and scaffolded for all children to be be able to access the curriculum and succeed. We use Concrete, Pictorial and Abstract representations of the different mathematical concepts to help children of all ages to have a deeper understanding. We encourage our children to make links to other concepts and knowledge they have learnt before to help develop their understanding further. They will then use this information to help with the problem solving and reasoning tasks to apply and strengthen their knowledge further.

Pedagogical principles

We adaptively use White Rose mixed-aged planning supplemented with resources from NCETM (Ready to Progress, Mastering Number), and the mathematical concepts, which are broken down into small manageable steps, ensure full understanding of the concepts taught and full coverage of the curriculum.

Throughout our lessons, we use all the Quality First Teaching Principles: Explicit Teaching, Technology, Flexible Groupings, Scaffolding and Metacognition and Self-Regulation, to help encourage, support and enhance the mastery of our children's independent learning.

Structure of the lesson

We adapt the White Rose learning content to mirror the intended learning objective. Quality First Teaching drives all. A typical lesson design would look like this:

1) Fluency
2) What do you notice? - learning question
3) Explicit teaching of new maths vocabulary
4) 'I do'- explicit modelled example, teacher to outwardly talk through the process. Live modelled on flipchart or visualiser.
5) "We do" - practice questions together with the teacher using same small steps as the 'I do'.
6) "You do" - independent learning.
7) Prove it – reasoning and problem solving to apply skills.

Planning

Planning from the sources described is sequenced and coherent. All learning is linked and prior learning is always returned to. The school's Calculation Policy outlines our chosen methods, models and resources used to teach, scaffold and support independent learning.

Concrete, Pictorial, Abstract (CPA)

Our children have regular exposure to the use of CPA within their daily lessons. Depending on the year group and concept being taught, the children will experience the use of manipulatives to help support and secure their learning of different mathematical concepts. As they advance up the school, the use of

manipulatives may change to more pictorial representations however, concrete manipulatives will still be used to support deeper understanding. They should then be able to use their deeper understanding to help support and apply this to their reasoning and problem-solving skills. To deepen learning of an age- related objective, some children will be offered more open ended, challenging problems around the concept their year group is being taught for them to gain an even deeper understanding of the knowledge or gain further links to other mathematical concepts. Children needing support will be scaffolded with different resources or adult support within their year groups learning to help them achieve alongside their peers. This will ensure there is full mastery of the age related curriculum.

I do, We do, You do approach

Throughout all of our maths lessons, we use the, I do, we do, you do approach. This is a method of backward fading throughout the small step of learning.

I do:

During the start of the lesson, we explicitly teach the concept being taught for the day. The teacher will model and think out loud their reasoning and justification for methods used and knowledge needed. This is also the stage where the smaller success criteria points are referred to throughout the explicit modelling of a concept.

We do:

This is the stage where the children will have a go with the teacher using the success criteria the teacher used in the I do. The teacher and the children will then go through the problem together.

You do:

This is the opportunity for the children to independently use their learnt skills on similar questions using the knowledge taught and success criteria to independently answer questions. During this time, the teacher may choose to keep a small group back to support and scaffold further before letting the children try independently.

Maths Mastery

In line with the National Curriculum expectations that the 'majority of pupils will move through the programmes of study at broadly the same pace'. All pupils in Chilton Foliat will have the same access to their year group's content within each lesson, unless they are working significantly below age-related expectations. Teaching staff work hard to ensure progression throughout each lesson so that every child has the opportunity to apply and deepen their conceptual understanding. All pupils will have an opportunity to apply their knowledge to problem solving and reasoning questions throughout their learning, supported and scaffolded where needed.

Children will be placed in pre or post-teaching interventions where needed. If the teacher feels the child may need extra support before or after the teaching, they will be placed in a pre or post-learning group to consolidate their learning.

Math Oracy

To help develop children's mathematical language and oracy skills, children have experience and use mathematical vocabulary daily. This is taught and used throughout the I do, we do, and you do stages in the lesson and encouraged to be used throughout the reasoning and problem-solving sections of the lesson. Maths Oracy is used to help encourage the use of verbal explanations and in turn support written application.

NCETM Mastering number EYFS and KS1

Mastering Number is a whole class session where children will develop their number sense and fluency of number. These sessions are aimed to be 15 minutes long and delivered four times a week. The aim of this programme is to develop subitising, ordinality, automaticity of number facts to reduce the cognitive load when learning trickier concepts. Children will participate in four sessions a week using small steps to help develop and build a strong fluency of the key number facts which will support their further learning within the main math sessions.

End.