

THE FLITCH GREEN

ACADEMY

Learning for Life

Maths Subject Statement **Subject Lead: Hannah Green**

'What is mathematics? It is only a systematic effort of solving puzzles posed by nature.'

– Shakuntala Devi

Intent:

The 2014 National Curriculum for Maths aims to ensure that all children:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics

At The Flitch Green Academy, we view mathematics as 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, and a sense of enjoyment and curiosity about the subject.

Our intent is to provide children with a mathematics curriculum that will allow them to become confident individuals through developing their mathematical skills to their full potential. We also aim to present maths as a challenging, exciting, creative and relevant subject in order to promote a positive and confident attitude.

We intend to ensure that pupils get regular opportunities in addition to discrete lessons to consolidate, remember and reinforce their mathematical knowledge through maths starters and other opportunities.

In line with the National Curriculum (2014) and using White rose as the basis of our planning and progressive curriculum, our overall intent focuses on all pupils being able to:

To 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.

To use and understand a wide range of appropriate mathematical language to discuss, explain and justify their mathematical thinking and reasoning.

To explore and deepen their mathematical understanding through a C-P-A approach, allowing exploration, acquisition of fluency skills and application of skills to a range of

problems and lines of enquiry.

To move fluently between different representations of mathematical ideas (variation theory).

We want our children to be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language and accurate vocabulary.

They should be able to 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.

Children can make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

They can apply mathematical knowledge across the curriculum in science and other subjects relating mathematical knowledge and skills to real life situations.

We want all children to access challenges of rich and sophisticated problems when they grasp fluency concepts rapidly rather than progressing to new content.

There should be opportunities to consolidate learning and concepts through repetition and intervention to acquire sound foundations for fluency of mathematics.

Implementation

We follow the White Rose scheme of work. This enables children to have a breadth of knowledge and the opportunity to dive into the depth of understanding of Maths.

Using pre assessments and careful planning of 'small steps' which sequentially build on each other, teachers plan and adapt lessons to ensure children achieve strong arithmetical, reasoning and problem-solving skills which they can apply across different areas of Maths and subjects. This ensures a progressive and thorough curriculum in every year group.

Teachers use a mastery approach and adapt planning where necessary to meet the needs of the pupils they are teaching. All children are provided with activities and challenge that consolidate their level of fluency but also challenges and deepens their understanding to achieve a mastery level of understanding and application.

Teachers are encouraged to plan on slides software format, creating slides for each 'small step' with teaching points and activities to be completed. This format ensures evaluation of each lesson and subsequent lessons are adapted accordingly. Teachers are also encouraged to remain on a small step if they feel that their children need further teaching and consolidation to ensure they understand before moving on.

WRM (White Rose Maths) promotes kinaesthetic learning to ensure children acquire fluency of skills by introducing concepts in a practical/concrete way to progress to pictorial then abstract (C-P-A).

Teachers deliver one mastery curriculum for all, providing opportunities to stay together (guided practice/we do) and to work through new content as a whole group. Teachers teach the whole class, allow pupils time to practise and bring the class back together to move on.

Differentiated learning is provided through a selection of tasks to consolidate fluency, use skills to solve problems or use skills and reasoning skills to solve higher-level challenge problems. Teachers should use their professional judgement to determine the activities, timing and organisation in each lesson in order to suit the teaching objectives and ensure children understand each small step.

To ensure fluency is secure in all areas, the principles of Rosenshine's Recap and This follows the format covering skills learnt from:

Session 1: Last week

Session 2: Last Month

Session 3: Last Unit

Session 4: Last year

End of unit block assessments will inform planning for these sessions.

Teachers select aspects of the curriculum to consolidate in these quick sessions and this may take the form of a quiz, reasoning questions or quick recall exercises. These sessions are quick fire and only last around 15 minutes but will be taking place around 4 times a week.

Teachers will give high quality opportunities in lessons for children to learn new content, become fluent in concepts and to be able to apply these concepts confidently in reasoning questions. Fluency is also key in relation to multiplication facts, where children should be able to recall multiplication and division facts for multiplication tables up to 12x12, by the end of year 4. Lessons are taught in sequences and discretely to secure the understanding of times tables progressively throughout the school.

Children are encouraged to mark their own work in Maths to ensure we are supporting discussions about mistakes and addressing misconceptions quickly.

For SEND children with barriers in Maths learning, adults will support where needed by breaking tasks into smaller chunks to enable scaffolding leading to independent learning. One plans that indicates Maths targets will be referred to in lessons and appropriate scaffolding and resources will be introduced. As we teach a mastery approach, pupils are identified quickly who have not mastered a concept and this is addressed in the next lesson or in subsequent lessons and in target groups.

Implementation in the EYFS:

Children follow the EYFS framework and work towards the ELG in Maths also using White Rose maths. The environment is Maths rich and there are regular and continuous opportunities to play and learn using CPA methods to make sure EYFS children can reach the new end of year descriptors including one more, one less and number bonds to 10.

How implementation is supported:

Questionnaires and staff meetings identify the training needs of teachers and applied

where needed.

The school works with the Local schools in the academy for continued professional development and this enables collaborative planning and additional training.

Maths lead observes and works with teachers to ensure teaching is of a high standard and supports improvement where needed.

Impact:

In Maths, teachers regularly measure impact in formative assessment in the classroom, this is based on the mastery approach and where needed children are given additional opportunities to master a concept or mathematical idea.

Half termly assessments are used to measure understanding and this informs planning in future lessons.

Children have regular opportunities to mark their own work and see their own progress, as well as receiving high quality feedback on their learning.

National assessments in Year 2 and 6 are used to identify trends in Maths and to discover where the school can make further improvements in Maths teaching.

The impact of our Maths curriculum will be monitored through the following ways:

- Termly Pupil Voice questionnaires
- Termly Teacher Assessments
- Evidence of Maths lessons through learning walks and book looks
- Termly drop in observations