

Subject on a

Maths

How we measure, predict and organise the world around us using numbers, shape, space and pat-



Intent—We aim to...

To learn key facts. Key facts such as times tables and number bonds are learned to automaticity to avoid cognitive overload in the working memory, enabling pupils to focus on new concepts. This supports our aim to ensure our

To have a deep understanding of mathematical concepts and procedures. All pupils are given time to fully understand, explore and apply their ideas. Concrete, pictorial and abstract representations of concepts are used to help pupils to explore and develop their understanding.

To have a sound understanding of mathematical vocabulary. Developing the way pupils speak and write about mathematics is key to developing strong understanding and reasoning skills. We expect pupils to explain their thinking and to explain why or how they know something to be true or false.

To have a positive attitude towards Mathematics. Rejecting the notion that some pupils 'just can't do mathematics' and encouraging pupils with the belief that through hard work, they can succeed. We instil and nurture character curriculum traits of self-confidence, independence, initiative, resilience and cooperation when

Implementation—How do we achieve our aims?

Curriculum De-

Using the White Rose scheme of work, staff at FFPS are able to plan well-sequenced units of work using a curriculum that spirals back each year to cover strands of maths at increasing complexity. Our teaching sequence is also carefully considered, beginning with recall through flashback & then moving to new learning with key vocabulary and an anchor task. The children then have the chance to apply learning in a guided way before moving to independent practice. The lesson finishes with a structured reflection to help the children develop metacognition skills which can help with their learning. Challenge is built in to our teaching sequence through questioning and greater depth challenges. Planning is always amended to meet the needs of each individual cohort and individual children, and so staff are not bound by the

Vocabu-

We encourage and build children's mathematical vocabulary throughout FFPS. New vocabulary is introduced and taught discretely and teachers model using key vocabulary throughout lessons. This can be seen during modelling in discussion and with the use of stem sentences during let's learn. Upon each working wall, staff will display key vocabulary relating

Knowledge Focused

Our calculation policy sets out the key methods used for solving problems in maths lessons which we would like pupils to remember. However, teachers will encourage pupils to explore different methods and will guide them towards efficient strategies. Key concepts we want pupils to understand are taught explicitly and working walls reflect this in order to support children's understanding. Pupils in KS1 are given the opportunity to practise their understanding and rapid recall of number bonds using the 'Numbots' app and similarly, children within KS2 are able to develop their recall of multiplication facts through

Fluency, reasoning and problem-

Each maths lesson sequence begins with an element of number fluency. A chance for children to develop their fluency with number before moving on to a problem during the in-focus stage of the lesson. Children are encouraged to discuss solutions to the problem using reasoning before the teacher guides the children to the most efficient method to find a solution. We aim to ensure all children will have the opportunity to reason and solve problems through the course of a lesson. At the end of each teaching sequence, children are encouraged to answer a metacognition question, which helps the children to think about how effective their problem-solving strategies have been and what they might do differently next time. At FFPS we are involved

Adaptations

We believe in developing a depth of understanding for pupils of all abilities, which requires teaching fewer topics but in greater detail. This allows teachers to adapt tasks with greater ease and success. Rather than accelerating high attaining pupils through subsequent Year group topics, they are challenged to delve deeper. Concrete, Pictorial, Abstract (CPA) is a highly effective approach to teaching that develops a deep and sustainable understanding of maths in pupils. CPA was developed by American psychologist Jerome Bruner. It is an essential technique within the Singapore method of teaching maths for mastery and is one of the key principles for teaching we use at FFPS. Multiple representations, both concrete, pictorial and abstract are used where pertinent to ensure understanding and to support all learners. These representations are left on white boards or working walls in order to support learners and teachers will ensure manipulatives are used on tables to aid understanding where this would be helpful.

High Quality

In the EYFS, two teachers recently attended a specialist maths 3-day course focusing on pattern and special reasoning. This involved action research which was undertaken by the staff whilst in school. All Year 1 staff have been involved with training for the Dance Equation (embodied maths) project, which involves delivering an 8-week programme aimed at improving fluency and retention of number. The FFPS maths lead attends termly maths network meetings and delivers regular staff meetings in order to address issues identified from pupil

Assess-

Teachers continually assess children throughout each lesson and will intervene immediately where a child demonstrates difficulty in understanding. This could be through immediate support, 1:1 or group intervention. Summative assessments take place at the end of each unit block using White Rose Hub end of block assessments. Teachers use these assessments to identify where further support is needed or where objectives need to be revisited. At the end of each term, classes complete NTS assessments for reasoning and arithmetic. These scores are

Revisiting and re-

Classes begin lessons with 'flashback 4' (WRH) to ensure concepts taught in previous lessons, weeks and terms are continually recalled and practised to ensure they become embedded within the long-term memory. The WRH curriculum is designed in a spiral, with each year group

Apply knowledge flexibly and be

To have the ability to apply knowledge flexibly, efficiently and accurately to solve problems. Pupils should build the skills needed to tackle new problems in different contexts and to be able to reason effectively. Where possible, pupils are exposed to solving problems in a real-world context and across the curriculum. Teachers encourage creativity in maths lessons. We teach mathematics in a fun and engaging way, to demon-



Impact: How will we know we achieved our aims?



Pupils are confident with the use of key vocabulary and can talk like a



Pupils have fun, engaging and purposeful lessons which deliver a high quality maths education.



Pupils know more and can remember more, demonstrating good understanding verbally and in their work.



Pupils are inquisitive and curious, and have the ability to explain their own mathematical thinking. They understand that maths is part of everyday life in the real world.



Pupils make good progress from their starting points and meet age related expectations.