Subject on a page

Mathematics

At Grace Mary Primary, we recognise that maths is an essential skill which helps children understand the world and enables them to think logically and problem solve.

INTENT

-We aim to…

- Deliver mastery curriculum- children deepen understanding through reasoning and problem solving.
- Provide children with essential number skills to help them succeed in the world.
- Allow children to see significance of maths.
- Have high expectations of all children and support those who need with scaffolds to grasp key learning.
- Create a can do culture.
- Develop children's positive attitudes.

IMPLEMENTATION

-How do we achieve our aims?

Mathematics is a creative and highly inter-connected 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. Crucially, a sound knowledge of mathematics is vital for young people seeking employment, and securing a qualification in mathematics is a fundamental requirement for the majority of employers.

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.

Clearly structured learning

To learn maths effectively, some aspects haver to be learned before others. Long term overviews are mapped out and medium term plans are produced by maths leader and class teacher every half term.

Mathematical vocabulary

Explicit vocabulary and sentence stems are used as a scaffold for allowing children to communicate their ideas. They provide a framework to ebbed conceptual knowledge and build understanding. Mathematical vocabulary booklet written.

Interleaved learning

Maths no Problem is a blocked learning scheme. To ensure frequent timely introduction and revisiting of concepts, we plan and deliver daily 'fluent in five' and 'blueys'.

Representations/CPA

Concrete-pictorial-abstract. Concrete and pictorial scaffold and strengthen conceptual understanding.

Used from foundation stage to year 6.

IMPLEMENTATION (continued)

Fluency

Commitment to learn addition and subtraction facts to 20 by the end of year 2. We are also committed to ensuring children their times tables up to 12 x 12 by the end of year 4. Structured mental maths policy teaches a range of strategies. Practise and consolidation built in with carefully designed variation.

Reasoning and problem solving

This is embedded in every lesson. Support pupils to be systematic, to generalise, to make conjectures and seek out patterns. Applying maths to a variety of problems with increasing sophistication.

CPD

Ongoing, sustained and subject specific- internally and externally. Continue to develop and build mental models.

Questioning

Used to check on conceptual and procedural knowledge. AFL diagnostic tool to enable teachers to plan next steps. Children encouraged to use correct mathematical language.

Differentiation

Emphasising deep knowledge and through scaffolded support and intervention (maths surgeries). Concrete resources- representations and structures. Deeper understanding of a task achieved through additional reasoning and problem solving tasks.

Online maths tools

TTRockstars and Numbots for fluency. Maths.co.uk for consolidation of learning.

IMPACT -How will we know we have achieved our aims?

Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

Children demonstrate a quick recall of facts and procedures. This includes the recollection of times tables.

Pupils know how and why maths is used in the outside world and in the workplace. They know about different ways that maths can be used to support their future potential.

Consistent teaching practices drawing on evidence that is known to be effective for pupil progress long term is evident across school. And for all children.

Children show resilience when tackling problems and the flexibility and fluidity to move between different contexts and representations of maths.

Children talk articulately using mathematical vocabulary about their maths lessons and speak with enthusiasm about how they love learning about maths.