

#### INTENT

**"Without mathematics, there's nothing you can do.**

**Everything around you is mathematics,**

**Everything around you is numbers."**

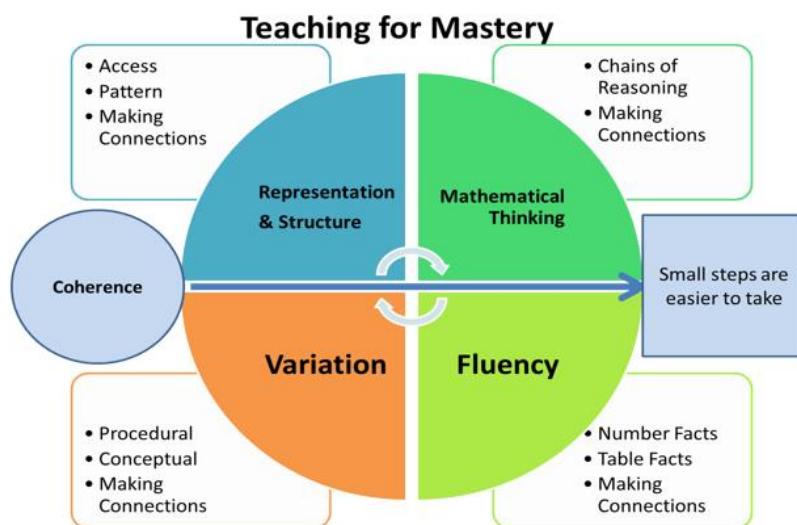
– Shakuntala Devi.

At High Green Primary School, our mathematics curriculum is designed to develop children's confidence about and use of mathematical vocabulary, and gives them a secure grounding in number, numerical patterns and spatial reasoning. The foundational skills of mathematics enable our children to think mathematically, ensuring they have mathematical fluency, and can reason and solve problems within a range of new and unfamiliar contexts.

Our children enjoy the challenge of finding solutions, seeing patterns, making links and explaining their understanding of mathematical concepts. Our mathematics curriculum provides children with a deep understanding through the concrete, pictorial and abstract approach, grounded in the use of mathematics vocabulary and oracy. Our **mastery mathematics curriculum** has been developed to ensure **every child can** achieve excellence in mathematics.

We believe that the teaching of mastery is underpinned by the NCETM's '5 Big Ideas' of Mathematical Thinking, Fluency, Variation, Representation & Structure, and Coherence.

See the following link for more information: [NCETM 5 Big Ideas In Teaching For Mastery](https://www.ncetm.org.uk/teaching-for-mastery)



At High Green Primary our aim is for young mathematicians to become:

- Confident and able to recall and apply mathematical knowledge in different contexts
- Able to explain their methods and thinking processes and apply skills in context
- Fluent in different areas of maths
- Efficient in applying problem-solving and reasoning skills
  - Independent thinkers

## IMPLEMENTATION

At High Green Primary School, we use the White Rose Maths Schemes of Learning and resources in every year group. The aim of our curriculum is to ensure that students can think mathematically and solve problems with confidence. The Schemes of Learning (SOL) outline yearly frameworks that break down what children need to learn during each week of each term to master the learning objectives laid out by the National Curriculum. Our mathematics curriculum develops mathematical skills and is well sequenced to promote a depth of understanding. We use and adapt these resources to design learning that is enjoyable, engaging and varied, to help children develop a love of learning and work towards mastery. White Rose's motto is "**Everyone Can Do Maths: Everyone Can!**" — and we wholeheartedly agree!

More information on the content of the curriculum can be viewed here: [White Rose Maths Curriculum Content](#)

Our mathematics curriculum provides high quality teaching for every child through small steps of learning to ensure procedural fluency and conceptual understanding. We use mathematics equipment, images and scenarios to provide our children with exciting and interesting sequences of learning. We use assessment to identify gaps and intervention for children to practise key skills. Adaptive teaching meets children's needs and individual starting points, ensuring everyone achieves success.

Our mathematics lessons may include the following:

- Retrieval practice of prior learning
- Whole class teaching to learn and practise new concepts
- Use of mathematics manipulatives (equipment, for example, Base 10, counters, Numicon, Cuisenaire rods)
- Working in groups
- Paired work
- Independent practise
- Discussions and a focus on oracy
- Use of key mathematics vocabulary
- Practical, investigative, oral, written and problem-solving activities.
- Development and practise of mental fluency and arithmetic questions

Teachers use formative assessment of children's understanding throughout the sequence of learning. Children complete summative assessments in maths every half-term. Teachers plan in opportunities for further practise and/or additional time to revisit prior learning in order to secure firm foundations of mathematical understanding and fluency. Our children complete the national Multiplication Timetables Check in Year 4 and the End of Key Stage Tests in Year 6. Children's progress is closely monitored and tracked. Pupil Progress Meetings are held by the Senior Leadership Team and class teachers every term in order to analyse progress towards age-related expectations and for any barriers to learning to be discussed and resolved.

### Inclusion

At High Green Primary School, we have the highest expectations for every child. We are an inclusive school and welcome all children to our happy, thriving and successful setting. We adapt our teaching and resources to scaffold learning and ensure that children's individual needs, including special educational needs (SEN), are met. We follow advise on appropriate teaching strategies and resources to use with individual children, for example, from Speech and Language Therapists, FUSION SEND Consultant Teachers, Educational Psychologists. When appropriate, some of children may work on their individual targets and practise key skills. This ensures that every child builds a strong foundation of understanding and knowledge in mathematics.

## IMPACT

The impact of our mathematics curriculum ensures that our children:

- Build firm foundations of learning mathematics
- Enjoy learning maths and are successful learners
- Are ready for the next steps of their learning journey
- Are mathematically fluent in key skills eg arithmetic
- Achieve well compared to national standards by the end of Year 6

### How is Maths monitored and shared with key stakeholders?

Maths is monitored throughout the year in accordance with the school monitoring schedule. The Maths Subject Lead and/or Senior Leadership Team undertake a range of activities, including teaching staff voice, pupil voice, book looks, lesson drop ins. The monitoring ensures the effectiveness of the curriculum in supporting children to know more and remember more, to progress towards the national age-related standards and to be successful mathematicians and that the statutory curriculum is being covered in every year group. Monitoring and Outcomes are shared with Governors and staff.

### How does Maths support SMSC?

#### Spiritual development in Mathematics

The study of mathematics enables students to make sense of the world around them and we strive to enable each of our students to explore the connections between their numeracy skills and every-day life. Developing deep thinking and an ability to question the way in which the world works promotes the spiritual growth of students. Students are encouraged to see the sequences, patterns, symmetry and scale both in the man-made and the natural world and to use maths as a tool to explore it more fully.

#### Moral development in Mathematics

The moral development of children is an important thread running through the mathematics curriculum. Children are provided with opportunities to use their maths skills in real life contexts, applying and exploring the skills required in solving various problems.

#### Social development in Mathematics

Problem solving skills and teamwork are fundamental to mathematics through creative thinking, discussion, explaining and presenting ideas. Children are always encouraged to explain concepts to each other and support each other in their learning. In this manner, children realise their own strengths and feel a sense of achievement which often boosts confidence. Over time they become more independent and resilient learners.

#### Cultural development in Mathematics

Mathematics is a universal language with a myriad of cultural inputs throughout the ages. Various approaches to mathematics from around the world are used and this provides an opportunity to discuss their origins. This includes different multiplication methods from Egypt, the legacy of the ancient Greek Language in maths and algebra from the Middle East. We try to develop an awareness of both the history of maths alongside the realisation that many topics we still learn today have travelled across the world and are used internationally.

#### How does Maths support personal development?

Mathematics equips all children with a toolbox to be successful in life. In maths we provide knowledge and understanding of financial matters, time, the ability to solve quantifiable problems and utilize critical thinking skills to enhance the abilities to think and make decisions. Analysing, evaluating, reasoning and communicating knowledge and skills provides a pathway to new discoveries. Using real life problems ensures that children see the validity of their maths knowledge.

#### How does Maths support a deeper understanding of life in Britain, including diversity and democracy?

Mathematics allows children to share their critical thinking skills in making decisions such as: choosing their secondary school, choosing an activity, deciding what game to play ie Minecraft (spending money via game). It also helps children with evaluating information. Children are made aware of the origins pf mathematics.