



## **Maths Curriculum Statement**

### **What Is Our Vision for Maths at North Star 180?**

Mathematics plays a crucial role in the educational curriculum at North Star 180, equipping students with vital problem-solving abilities and logical reasoning skills. Daily exposure to mathematics, whether through formal lessons or real-world applications, is essential for fostering numeracy skills. This not only readies children for the mathematical demands of everyday life but also enhances their comprehension of the world. The White Rose Maths program is implemented to provide a systematic method that facilitates a profound grasp of mathematical principles, cultivating a positive approach towards learning and recognizing the significance of mathematics in daily existence.

### **Intent**

At North Star 180, the intent for mathematics is to provide a rich, balanced, and progressive curriculum. This curriculum emphasises using mathematics for reasoning, problem-solving, and developing fluent conceptual understanding. By making connections between mathematics and everyday life, children can better make sense of the world around them. The curriculum is designed to be integrated across different areas, and its structure ensures clear progression. Teaching content in blocks allows children to explore skills and knowledge in depth, leading to a secure understanding of specific subject matter, with opportunities to further their knowledge of concepts and achieve mastery. Regular revisiting of key knowledge and skills reinforces learning through repetition. The concrete, pictorial, abstract approach provides a clear structure for children to develop a deep understanding of mathematical concepts. Overall, the goal is to present mathematics as a high-value subject that children view positively with a resilient attitude.

### **Implementation**

The North Star 180 curriculum exemplifies a dynamic approach to teaching mathematics, where continuous improvement and adaptability are at the forefront. By regularly updating the curriculum and providing high-quality Continuous Professional Development (CPD), teachers are equipped with the necessary skills and knowledge to deliver effective instruction. Our teachers share a passion for Rosenshine's 10 Principles of Instruction and utilise these principles within their teaching, to foster a positive learning culture and embed mathematical retention for our pupils. The curriculum's strength lies in its comprehensive support system, encouraging staff to engage in ongoing learning and to seek further training proactively. This collaborative environment fosters the sharing of best practices, ensuring that all teaching strategies are informed by the latest educational insights.

The curriculum's resource management ensures that pupils have access to top-tier learning materials, facilitating a seamless transition from concrete examples to abstract concepts.

The use of the White Rose Maths programme, digital resources and the national curriculum, offer a diverse educational experience. This multifaceted approach not only covers the key stages of mathematical understanding but also integrates all six areas of problem-solving, promoting fluency, analytical thinking, and reasoning across different learning experiences.

Our approach to mathematics education described emphasises a comprehensive understanding and application of key mathematical concepts.

The use of pre and post unit assessments, along with termly assessments, allows our teachers to track the progression of their pupils' knowledge and skills effectively.

The consistent use of correct mathematical vocabulary by teachers, and the encouragement for pupils to do the same, fosters an environment where mathematical language becomes second nature. The strategic display of vocabulary on working walls reinforces this learning.

Interventions are thoughtfully scheduled for those needing extra help, while group support is a staple in regular lessons, ensuring that every child's needs are addressed. The development of fluency through practice and repetition of key skills, often centred around the 4 operations, at the start of every lesson builds a strong foundation for applying their skills to more complex problem solving and reasoning. Pupils are also taught to be discerning in their approach to problem-solving, with opportunities to estimate, calculate, and evaluate their methods.

Feedback mechanisms are varied and informative, contributing to visible academic progress. The encouragement of discussion among peers and with teachers is a testament to the value placed on communication in learning. Varied task types cater to different learning styles across the school, with a particular focus on developing reasoning skills. Investigative tasks challenge pupils to explore, justify, and prove their thinking, promoting independence and resilience. This holistic approach not only equips pupils with mathematical proficiency but also prepares them to tackle challenges collaboratively and independently.

## **Impact**

The North Star 180 mathematics curriculum is a shining example of how education can be transformative when it aligns with real-world applications. By emphasising the practicality of mathematics in everyday life, it not only enhances children's understanding but also fosters a lifelong appreciation for the subject. The curriculum's focus on creating an engaging and supportive learning environment, allows pupils to explore mathematical concepts with curiosity and confidence. Encouraging the acceptance of mistakes as a natural part of the learning process is particularly commendable, as it builds resilience and a growth mindset. The curriculum's comprehensive approach, which includes fluency, reasoning, and problem-solving, ensures that pupils develop a robust mathematical foundation. The pride that pupils take in their work and the high standards maintained by the school are testament to the curriculum's effectiveness. Such an approach not only prepares pupils to excel academically but also equips them with the key operational skills and critical thinking skills necessary to navigate the complexities of the modern world.