Coomb Briggs Primary Academy

Mathematics - Intent, Implement, Impact

Intent, Implementation and Impact

Here at Coomb Briggs Primary Academy we see it as our duty to cultivate a vibrant and dynamic mathematics learning environment where every child blossoms into a confident, resilient, and enthusiastic "can-do" mathematician. We believe that mathematics is not just a subject, but a powerful tool for understanding and navigating the world, and we are committed to empowering our pupils to embrace its beauty and utility.

Our Core Principles:

- Mathematics for All: We champion inclusivity and equity, ensuring every child, regardless of background or prior attainment, experiences success and develops a deep understanding of mathematical concepts.
- Deep Conceptual Understanding: We move beyond rote learning, fostering a culture of inquiry, exploration, and problem-solving, where children grasp the "why" behind the "how".
- Mathematical Fluency and Reasoning: We equip our pupils with the fluency to manipulate numbers and the reasoning skills to apply their knowledge in diverse contexts, empowering them to become confident mathematical thinkers.
- Practical Application and Real-World Relevance: We connect mathematics to real-life situations, making learning engaging and meaningful. We believe in hands-on, practical experiences that bring abstract concepts to life.
- Cultivating a Growth Mindset: We foster a positive and supportive learning environment where mistakes are celebrated and are seen as opportunities for growth with all children being driven to embrace challenges and persevere.

Our Intentions in Action:

1. Robust Assessment: Illuminating Learning Pathways:

- We will implement a multifaceted assessment strategy that goes beyond traditional tests, incorporating:
- Formative Assessment (AfL) as a Continuous Dialogue: We will embed AfL strategies throughout every lesson, using questioning, observation, and discussion to gain real-time insights into pupils' understanding.
- Data-Driven Instruction: We will utilise assessment data to inform planning, differentiate instruction, and provide targeted support to ensure every child reaches their full potential.
- Pupil Self-Assessment: We will empower children to reflect on their own learning, identify areas for improvement, and set personal goals.

2. Assessment for Learning (AfL): Fostering a Culture of Reflection:

- We will cultivate a classroom environment where:
- Clear Learning Objectives are Shared and Understood: Pupils will understand what they are learning and why.
- Effective Questioning Promotes Deeper Thinking: We will use open-ended questions to encourage pupils to explain their reasoning and justify their answers.
- Meaningful Feedback Guides Improvement: We will provide specific and actionable feedback that focuses on progress and encourages pupils to take ownership of their learning.
- Peer Assessment and Collaboration: We will encourage pupils to learn from each other through collaborative activities and peer feedback.

3. Recap and Recall: Building Solid Foundations:

- We will implement strategies to ensure that key mathematical concepts are embedded in long-term memory:
- Regular and Varied Recap Activities: We will incorporate daily recap activities, such as quick quizzes, mental math exercises, and "flashback" tasks, to reinforce prior learning.
- Spaced Repetition: We will strategically revisit key concepts at spaced intervals to promote long-term retention.
- Retrieval Practice: We will use retrieval practice techniques, such as low-stakes quizzes to encourage pupils to actively recall information.
- Linking New Learning to Prior Knowledge: We will explicitly connect new concepts to previously learned material, building a strong network of mathematical understanding.

4. Practical Skills and Concrete Experiences: Making Maths Tangible:

- We will prioritize hands-on learning experiences that bring mathematics to life:
- Manipulatives and Concrete Resources: We will provide access to a wide range of manipulatives, such as counters, blocks, and number lines, to support concrete understanding.
- Real-World Investigations and Problem-Solving: We will engage pupils in practical investigations and problem-solving activities that connect mathematics to real-life contexts.
- Outdoor Learning and Mathematical Trails: We will utilize the outdoor environment to explore mathematical concepts, such as measurement, geometry, and data collection.
- Cooking, Building, and Creative Activities: We will integrate mathematics into cross-curricular activities, such as cooking, building, and art, to make learning engaging and relevant.

5. Maths-Positive, Can-Do Mathematicians: Nurturing Confidence and Enthusiasm:

- We will create a classroom culture that celebrates mathematical thinking and encourages risk-taking:
- Positive Language and Encouragement: We will use positive language to foster a growth mindset and build pupils' confidence.
- Celebrating Effort and Progress: We will celebrate effort and progress, rather than just focusing on correct answers.
- Providing Opportunities for Challenge and Extension: We will provide opportunities for pupils to extend their learning and tackle challenging problems.
- Making Maths Fun and Engaging: We will incorporate games, puzzles, and creative activities to make mathematics enjoyable and engaging.

Implementation:

Curriculum Structure and Planning:

- We use the White Rose Maths scheme from EYFS through to Y6. We follow their progression and planning documents and adapt these to fit the needs of our children.
- Supplement Busy Ants lessons with targeted White Rose Maths online resources, such as videos, worksheets, and interactive activities, to reinforce or extend learning.
- Employ a "small steps" approach, breaking down complex concepts into manageable learning objectives, as facilitated by Busy Ants.
- Ensure consistent use of concrete, pictorial, and abstract (CPA) representations, leveraging the resources within Busy Ants and supplementary White Rose materials.
- Regularly review and adapt planning based on ongoing assessment and pupil progress.
- Use formative assessment techniques during lessons to adapt in real time.

Teaching and Learning:

- Deliver engaging and interactive lessons based on the White Rose scheme, promoting active participation and discussion.
- Integrate reasoning and problem-solving activities throughout lessons, using the problem solving aspects of the White Rose scheme.
- Utilise concrete manipulatives and visual aids from the White Rose scheme to support learning.
- Provide opportunities for collaborative and independent learning.
- Develop pupils' mathematical vocabulary through explicit instruction and modeling.
- Use the online resources to provide extra support for children that are struggling.
- Provide timely and effective feedback, addressing misconceptions and promoting progress.

- Implement targeted same day interventions (SDI's) for pupils who require additional support.
- Provide challenging activities for high-attaining pupils, extending their learning beyond the core curriculum.

Assessment and Monitoring:

- Implement a range of formative and summative assessment strategies, including observations, questioning, written work, and tests.
- Regularly analyse assessment data (unit White Rose tests and past SAT's papers) to inform planning and teaching.
- Conduct regular pupil progress meetings to review and discuss pupil attainment and progress.
- Monitor the implementation of the mathematics curriculum through learning walks, work scrutinies and pupil voice.

Resources and Environment:

- Ensure access to a wide range of mathematical resources, including manipulatives and White Rose resources.
- Create a stimulating and engaging learning environment that promotes a love of mathematics.
- Utilise interactive whiteboards and other technology to enhance teaching and learning.
- Ensure that the use of online resources is safe and compliant with school safeguarding policies.

Professional Development:

- Provide ongoing professional development for staff on the implementation of the White Rose schemes.
- Encourage staff to share best practices and collaborate on curriculum development.
- Provide opportunities for staff to observe and learn from other schools and experts.

Impact:

Pupil Outcomes:

- Improved pupil attainment and progress in mathematics, as evidenced by assessment data.
- Increased pupil confidence and enjoyment of mathematics.
- Enhanced pupil ability to apply mathematical knowledge and skills to solve problems.
- Development of strong mathematical reasoning and problem-solving skills.
- Improved pupil understanding and use of mathematical language.
- Increased percentage of children meeting expected standard in maths.
- Increased percentage of children exceeding expected standard in maths.

Teaching and Learning:

- Consistent and high-quality mathematics teaching across the school.
- Effective implementation of the White Rose and scheme.
- Increased use of concrete, pictorial, and abstract representations.
- Enhanced use of mathematical manipulatives and resources.
- Improved assessment and monitoring of pupil progress.
- Teachers are more confident in their ability to teach maths.

School Culture:

- A positive and engaging learning environment that promotes a love of mathematics.
- A culture of high expectations and continuous improvement in mathematics.
- Effective collaboration and communication between staff on mathematics teaching and learning.
- Increased pupil engagement in maths lessons.

Monitoring and Evaluation:

- Regular monitoring and evaluation of the impact of the mathematics curriculum.
- Use of assessment data and pupil feedback to inform future planning and development.
- Continuous improvement of the mathematics curriculum and teaching practices.
- Regular reviews of the White Rose Maths scheme to ensure it is meeting the needs of the school.