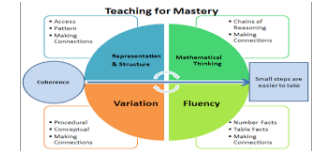


Maths Curriculum Rationale



At Bradway, our approach to maths is based on the belief that every child should enjoy and succeed in mathematics, irrespective of background. This is taught through a 'mastery approach', using concrete, pictorial, and abstract representations to support deeper understanding of concepts. The mastery approach is based on the Five Big Ideas of the NCETM: representations and structures, language, mathematical thinking, variations and fluency. Children are then able to apply their skills in a variety of different contexts. We believe that mathematical knowledge can be attained by all through effort, dedication and hard work. Our intent is that through this approach, our pupils, our staff, and our parents will develop a positive attitude towards Maths.



INTENT

- 
Alignment to National Curriculum
- 
End Points
- 
Sequencing
- 
Addressing Social Disadvantage
- 
Local Context

Bradway's maths curriculum begins in EYFS with the Mathematics strand from the Statutory Framework. The school follows the White Rose scheme of learning, which is fully aligned to the National Curriculum. Linked to research by the NCETM, the scheme follows a mastery approach: teaching focuses on number sense; teachers stay within the required key stage and follow the idea of depth before breadth; the scheme ensures students can stay together as a group; there are plenty of opportunities to build reasoning and problem-solving elements into the curriculum.

Teachers are ambitious in all year groups and the scheme of learning is designed to take children to greater depth within the statutory assessment frameworks. Our aim is that all children should become confident mathematicians who have the skills to approach, tackle and solve a range of problems, that prepares them well for the next key stage of their education.

The White Rose scheme of learning is carefully sequenced so that each unit block follows on from the previous year's learning. The progression document shows the progression of knowledge and specifies where concepts were previously taught, to enable teachers to plan for the retrieval of prior knowledge. This enables pupils to 'master maths' by consistently building on previous learning. Maths Meetings are used to enable teachers to regularly revisit prior learning.

A key principle of our teaching is that every child can engage with the curriculum for their year group, unless they have a significant developmental delay. Pre-teaching and same day interventions are used to ensure that all children can engage with the key learning. If appropriate, additional support such as individual and small group tuition is put in place for those who require further support.

For a proportion of our lower attaining pupils and pupils with SEND, carefully structured support and purposeful guidance is provided, where necessary, to increase their confidence and independence. Language development is a key focus. Through highlighting key mathematical vocabulary, as well as a large emphasis on teacher modelling and appropriate scaffolding, pupils develop and broaden their vocabulary, enabling them to articulate their responses and to build their reasoning skills.

IMPLEMENTATION

- 
Pedagogical Approaches
- 
Teachers' Expert Knowledge
- 
Promoting Discussion and Understanding
- 
Knowing More and Remembering More
- 
Teacher Assessment

Maths lessons begin with fluency activities, designed to practise retrieval of key facts. Lessons are planned carefully to ensure that children are exposed to a range of representations. Task design reflects this range of representation, and ensures that all children are exposed to problem-solving and reasoning questions. Tasks are carefully designed using scaffolding strategies so that all children can access the task confidently. Maths meetings are used across school, in addition to maths lessons, allowing children to consolidate and embed prior learning, as well offering pre-learning opportunities.





Teachers are provided with a range of resources to support subject knowledge: White Rose Premium Resources include teaching slides and videos which can be used to inform and develop teachers' explanations of key concepts; teachers are also provided with access to the Department of Education's Ready to Progress criteria and the supplementary material developed by the NCETM. All these resources include key language, sentence stems and key questions created to push learners on to the next stage of their learning. The Maths Lead delivers training and support on using these resources.

Teachers plan lessons which include key vocabulary specific to the area being studied. Regular discussion tasks are built into lessons to allow children to articulate their thinking and to develop their language skills. Use of the NCETM materials supports teachers in providing children with mathematically precise sentence stems. Maths meetings offer a further opportunity to explore the meaning of mathematical vocabulary and to practise using the language in talk activities. Use of these activities throughout school builds the children's understanding of key concepts.

White Rose curriculum maps are used to present the content of the National Curriculum in a logical progression. The school's approach also builds on current research into metacognition. This is evident in lessons and in Maths Meetings, which include checkpoints to establish children's knowledge before moving on to the next part of the lessons. Retrieval practice at the start of each lesson allows children recall prior learning as well as enabling teachers to evaluate which areas of learning have been forgotten.

Throughout every lesson, teachers assess learning before moving on. Misconceptions can then be addressed with individuals or groups of children. Books are evaluated regularly, and children with gaps in understanding are picked up in intervention groups. End of unit assessments inform teachers' ongoing planning as any gaps in understanding can be addressed with a combination of intervention groups and use of Maths Meetings and retrieval activities.

IMPACT

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Approach to Assessment
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Performance Data
- 
Pupils' Work
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Talking to Pupils

White Rose End of Unit assessments and End of Term assessments offer summative snapshots of children's progress within the year's learning. This data is used termly to inform pupil progress meetings, where the progress of each child is checked and considered. A minimum of 3 steps progress per child is expected throughout the year. Children who are making inadequate progress within the year or in comparison to end of Key Stage benchmark are identified, and additional support such as teacher/teaching assistant focus in class or intervention groups is put in place.

Governors review whole-school performance data on a termly basis with the expectation that pupils and cohorts are on track to achieve or exceed national standards. Performance data is shared with all staff so that any whole-school trends can be swiftly identified and addressed. Baseline data and end of Key Stage 1 performance data is monitored to ensure that pupils make at least the expected progress during their time at Bradway.

Teachers have high expectations of all children in terms of the quality and presentation of their work. Careful number and symbol formation is an expectation of all children. Teachers model how to present working out logically and systematically. Books are reviewed regularly to ensure that across school, children are being presented with a range of representations and problem-solving opportunities.

All members of the senior leadership team, as well as the maths lead, talk to pupils as part of regular monitoring. Pupils are questioned about what they have learnt and what they can remember, as well as how much they enjoy maths. Key improvement actions can be identified as a result.

Links / References

www.whiterosemaths.com
www.ncetm.org.uk
 Ready to Progress Criteria:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1017683/Maths_guidance_nce_KS_1_and_2.pdf