Broad Chalke CE VA Primary School

Mathematics Policy 2024

'We serve one another in love'

Statement of Intent

Our aim at Broad Chalke CofE Primary School is for all children to enjoy mathematics and have a secure and deep understanding of fundamental mathematical concepts and procedures when they leave us to go to begin their next step in education. We want children to see the mathematics that surrounds them every day and enjoy developing vital life skills in this subject.

At Broad Chalke, we take a mastery approach to the teaching of mathematics. As part of this, we work on the principle that all pupils can learn and enjoy mathematics and that, by sharing learning in small, manageable steps, we can support learners to make connections between prior and new learning in the subject. The mastery approach dictates that children, once meeting the objectives, are extended through questioning, deep analysis and exploration to broaden their knowledge. This ensures that concepts are fully and securely understood before moving onto new objectives. As part of this, we want there to be challenge for all pupils so that they are aspirational in their mathematical learning and conceptual understanding.

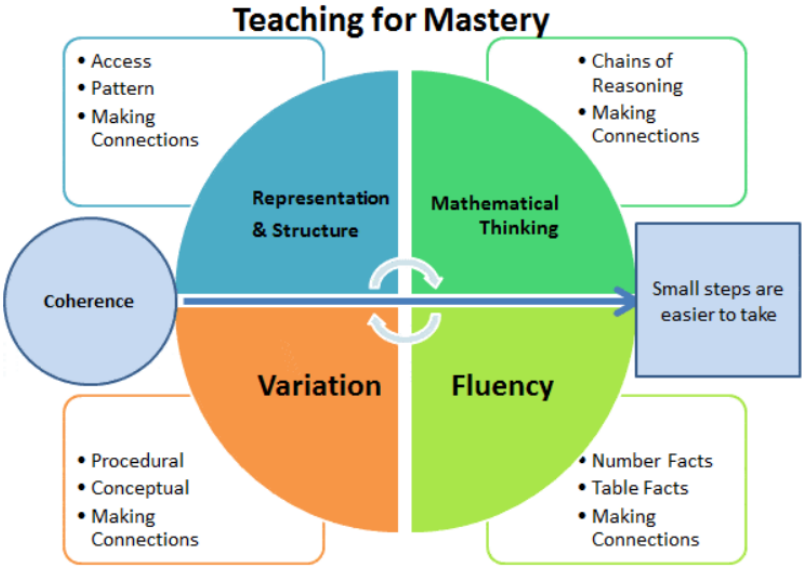
Lessons include a focus on number fluency, direct teaching, guided practice and finally, independent practice where children are able to apply what they have been taught. Using a concrete, pictorial and abstract approach helps pupils to develop this independence; by using mathematical manipulatives, children can demonstrate their understanding and then use drawings as well as pure number work to express this within their work.

Our Maths planning is rooted in White Rose Maths. In EYFS, children take part in daily Mastering Number sessions. In Key Stage 1, children take part in daily Number Sense sessions.

Implementation

We take a mastery approach to the teaching of mathematics. Our aim is for all children to enjoy mathematics and have a secure and deep understanding of fundamental mathematical concepts and procedures when they leave us to go to begin their next step in education.

Through mastery learning, we spend greater time going into depth about a subject as opposed to moving quickly through the things that all children should know. Moving too quickly can lead to some children having large gaps in subject knowledge as the concept was too big. We want to ensure that children have a solid, concrete understanding of mathematics with the foundation and skills needed for their future.



Following a teaching for mastery approach, we five key principles: cohesion, representation and structure, fluency, variation, deep mathematical thinking.

Each class teacher plans, teaches and assesses mathematics in line with the National Curriculum. We take our medium-term mathematics plans from White Rose Maths, using the blocked approach of planning and teaching. The White Rose Maths teaching materials outlines the main objectives for each term and defines what we teach, using a mastery approach. Children are kept together on the same learning objective, rather than moving on at different paces. Reasoning/problem solving is embedded in tasks to ensure that all children can access the learning. While planning for mathematics, teachers use and adapt the White Rose plans to ensure the learning outcome is met in a clear, structured manner.

Daily lessons are designed with careful small steps, questions and tasks in place to ensure deeper thinking learning. Teachers aim to embed a culture where everyone learns mathematics to the highest levels, that mistakes are valuable, questions are important and depth is much more important than speed. During a daily lesson, times tables are practiced. Flash back 4 and Fab four are also used. These are retrieval questions of previous learning based on what the children did last year, term, week and yesterday. The key aims – fluency, guided practice, independent practice, reasoning and problem solving and greater depth challenge.

At times, teachers may use pre-teaching to support children who might struggle with new concepts and give them the opportunity to get familiar with vocabulary in readiness for the lesson.

In LKS2, we follow the Wiltshire recommended programme to teach times tables systematically. This is a daily programme to ensure fluency, prepare children for work in fractions and prepare them for the Multiplication Tables Check.

Mastering Number and Number Sense

EYFS follow the Mastering Number programme, while KS1 follow Number Sense to secure firm foundations in the development of good number sense for all children. Over time, children will leave KS1 with fluency in calculation and a confidence and flexibility with number. The children will develop and demonstrate good number sense, secure understanding of how to build firm mathematical foundations, develop intentional teaching strategies focused on developing fluency in calculation and number sense for all children and develop understanding and use of appropriate manipulatives to support teaching mathematical structures.

EYFS

EYFS follow the DSAT Early Years Curriculum progression with termly milestones leading toward end of year outcomes. Alongside this, EYFS follow Mastering Number. This Early Years Curriculum captures the statutory curriculum requirements, is informed by Development Matters 2021 and includes curricular ambition with regard to each area of learning. It established through the mastery approach, established during the autumn term, and then securely built on in spring and finally summer. This ensures that children are ready for Y1 and as part of meeting the ambition for your EY curriculum, children also meet the ELGs. We give all the children ample opportunity to develop their understanding of number, shape, space and measure through varied activities that allow them to enjoy, explore practice and talk confidently about mathematics. The children are challenged within the lesson with questions or adapting the activity.

Delivery

During these lessons we encourage children to ask as well as answer mathematical questions and to explain their reasoning. We use stem sentences to support the children's vocabulary and mathematical way of learning. We follow an 'I do, we do, you do' approach, there is regular interchange between concrete/contextual ideas and their abstract/symbolic representation. It will involve deep mathematical thinking, discussions, practice and sometimes games. This is continued after the guided practice for more examples and/or deeper thinking. Misconceptions are addressed and allow children time to consider what 'might' be the answer.

Guided Practice

The children may be given a guided practice question to go in their book or been addressed and modelled during the delivery. This allows the children to have the concept available to refer to.

Independent practice

Independent practice is used for allowing the children time to practice the skill, applying it and intervention. This may be seen in form of a worksheet questions, a game or activity relevant to the learning outcome. Children are able to use manipulatives, concrete, pictorial and abstract to support their learning process. Children may be challenged through higher-level reasoning.

Reasoning and Problem solving.

Once the children have worked through practice, application and necessary intervention, the complexity is increased (one step thinking, some scaffold). Children start to apply their knowledge of the key skill into worded problems. They may also be applied into non-routine contexts to deepen their understanding. For example: True or False with an explanation, missing number problems and continue a pattern.

Purple Box Challenge.

Purple box challenges are designed to extend deeper thinking with complex, non-routine problems and reasoning. They usually involve multiple steps, complex thinking and detailed reasoning.

Additional Mathematics

Additional to our usual mathematics lessons, we offer children the opportunity to join in with Times Tables Rock Stars, data handling investigations and Beebots. These are either incorporated during a lesson or available for children to use at home.

Adaptive Teaching

In all classes, children have a wide range of abilities and we seek to provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies including differentiated tasks, adult assistance or challenge and the use of scaffolds to support learners.

Impact

At Broad Chalke CofE Primary School, we know that our teaching Mathematics is effective as:

- We assess children's work in Mathematics through three aspects -short, medium, and long-term. Short term assessment are closely matched with each learning objective daily, these help plan for the next step needed. At the end of each maths block, we use medium-term assessments to measure progress against the key objectives. For example, a range of questions in a starter help us to plan the next unit of work. We utilise the online data tracking system Insight to monitor attainment and progress.
- In line with our trust expectations, we use National Tests – data gap analysis which allows for bench marking. Children take formal assessments 3 times a year, and we use these to assess individual progress. Teachers use the White Rose assessments or past SATS papers to check progress and will use this information to form part of the judgement that they will input to Insight in order to track progress across the school. We then set targets for the next school year using the child's current attainment and also referencing EYFS and KS1 data and make a summary of each child's progress (before discussing it with parents). We pass this information on to the next teacher at the end of the year, so that he/she can plan for the new school year. We use the national tests for children in Year 2 and Year 6 to make comparisons against school and national targets plus the White Rose assessments at the end of Years 3, 4 & 5. Teachers meet once a term to review the progress of pupils throughout the school, or to moderate work together.
- The children will use stem sentences across the school, these will connect to each unit of work, enabling the children to become familiar throughout the primary school stages.
- The children will increase fluency across the school as learning will become systematic.

Monitoring and Review

The quality of teaching and learning in Mathematics is monitored regularly by the Maths Leader as well as the Senior Leadership Team. The role of the Maths Leader is to support colleagues in their teaching as well as providing a strategic lead and direction for Mathematics within the school. The Maths Leader has dedicated release time to support this. The Maths Leader regularly updates the Headteacher and Governing Body through verbal and written reports. The subject governor also visits regularly and meet with the Maths Manager to ensure the effective management and leadership of the subject.

Parental links and Home Learning

We value our strong links with parents/ carers and encourage them to share in their child's progress. Teachers regularly share mathematical learning and concepts with parents via the online learning platform SeeSaw. Our website also has a dedicated page for Maths to celebrate learning and support parents and pupils.

This policy will be reviewed at least every two years.

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Appendix 1

Agreed Consistencies at Broad Chalke School - Maths

Flashback Four is used regularly to support pupils' fluency. Flashback Fours are adapted or added to in order to meet the needs of pupils. Stuck in back of book.	Mastering Number happens daily in EYFS and KS1. Mastering Number	'Fab Four' grids which contain questions from yesterday, last week, last month and last year are used weekly to support fluency and recall in KS1 and 2.	Stem sentences are used by all year groups. They are recorded on the working wall.	Practice is labelled as guided or independent.
Manipulatives are organised into accessible 'grab baskets' which contain enough for a pair/table and can be easily handed out within Maths lessons.	There is evidence of Maths learning in books most days in KS1 and KS2.	There are evidenced regular opportunities for children to complete reasoning and problem solving (RPS) tasks across KS1 and KS2.	There are daily 'purple box' greater depth challenges for pupils linked to the learning within that Maths lesson.	We use an 'I do, we do (guided practice), you do (independent practice) approach.
Lessons build on one another in suitable small steps to ensure pupils are not left behind.	Lessons are appropriately pitched and contain challenge. Pupils shouldn't be consistently getting **every** question right **every** day. Stretch questions should challenge pupils' thinking.	Books are well presented. Sheets are stuck in on the left with working out on the right. The DUMTUM approach is used. One digit per square.	Children receive feedback from an adult every lesson through a red, orange or green tick against the 'I can'.	