Teaching Maths at Dove Bank

(revised July 2026)

Subject Statement

'Mathematics is a creative and highly interconnected discipline that has been developed over centuries providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering and necessary for financial literacy and most forms of employment. A high quality mathematical education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the power and beauty of mathematics, and a sense of enjoyment and curiosity about the subject.' (DfE 2013)

At Dove Bank, our intent for mathematics is to deliver a rich, balanced and progressive curriculum through a mastery approach across all key stages. We aim to develop confident mathematicians who can reason, problem solve and demonstrate fluent conceptual understanding. We want every child to recognise the importance of mathematics and understand how mathematical knowledge and skills are applied in everyday life. Our curriculum enables children to make sense of the world around them while fostering confidence, independence, resilience and a genuine enjoyment of mathematics.

At the heart of our mathematics teaching is the Concrete–Pictorial–Abstract (CPA) approach. Practical experiences using concrete resources and carefully chosen visual representations provide the foundation for developing deep conceptual understanding before children move towards abstract mathematical thinking. This approach ensures that all pupils build secure mathematical knowledge and make meaningful connections between concepts.

Underpinning our mathematics curriculum is a strong emphasis on mathematical vocabulary and oracy. Rich discussion, explanation and the precise use of mathematical language are integral to every lesson. Pupils are immersed in ambitious mathematical vocabulary and are encouraged to articulate their thinking, justify their reasoning and communicate their ideas with confidence. We believe that high-quality mathematical talk is essential in developing deep understanding and fostering effective mathematical thinking.

Subject Leader & Expert Teachers

Within school we have a wealth of experience in the teaching of maths. Details of staff are detailed below:

- Lydia Smith is our maths lead. Lydia has ten years of experience delivering high quality maths learning to children across both key stages. Lydia is a member of the North Midlands Maths Hub and is currently developing maths leadership skills through external training and networking. Lydia is also currently undertaking the Maths Champion training for Early Years.
- Our nursery staff provide high quality maths learning opportunities through practical provision, for our Early Years children, before school age. Rachel Simpson (nursery nurse), is currently undertaking the Maths Champion training in order to become school's deputy maths champion.
- Katie Halliwell is core curriculum leader and works closely with the maths lead.

- All staff are expert and enthusiastic teachers of maths and have received extensive, in house and external training. Everyone is involved in the audit and development of key resources such as the calculation policy and sharing ideas and resources.
- Our parents and non-teaching staff are able to share how maths skills enable them to do their jobs.

Curriculum Organisation

Early Maths Development

Our Early Years setting provides a language-rich environment where oral and practical mathematical experiences are embedded throughout each day. We foster enthusiasm, curiosity and a love of mathematics by drawing on stories, rhymes, songs, play and meaningful everyday experiences. Opportunities to develop mathematical vocabulary and oracy are carefully planned across all areas of learning, enabling children to explain their thinking and build confidence in using mathematical language. A dedicated maths working wall and a wide range of concrete mathematical resources support children's learning and encourage exploration.

In **Busy Bees** and **Little Ladybirds**, mathematical learning is delivered through stories, songs, rhymes, practical experiences and high-quality interactions. Planning is designed to ensure progression towards the Early Learning Goals, providing children with a secure foundation in early mathematical concepts through play-based learning.

In **Big Butterflies**, mathematics is planned using the **White Rose Nursery Scheme of Learning**, which provides a clear progression of concepts while maintaining a practical, play-based approach. Children develop their understanding through exploration, discussion and hands-on experiences, supported by high-quality resources including Numberblocks and NCETM materials.

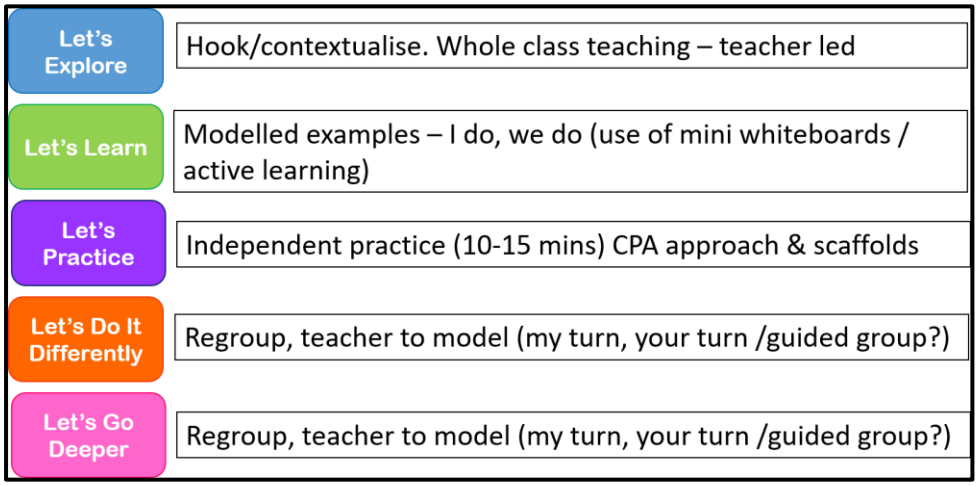
In **Reception**, the **NCETM Mastering Number** programme forms the core of daily mathematics teaching, developing children's fluency and deep conceptual understanding of number through a mastery approach. The **White Rose Reception Scheme of Learning** is used alongside Mastering Number to teach other areas of mathematics, including shape, space and measure, ensuring full coverage of the Early Years Foundation Stage curriculum. Throughout the Early Years, the Concrete–Pictorial–Abstract (CPA) approach underpins mathematical teaching, enabling children to build secure understanding through practical resources, visual representations and, ultimately, abstract thinking.

Curriculum Organisation and Subject Specific info beyond EYs

At Dove Bank we follow the White Rose Scheme (online via individual log ins) as the backbone of our maths curriculum. The White Rose scheme has been developed to provide a wide coverage and clear progression. Skills, knowledge and vocabulary have been organised to maximise progress and knowledge. Teachers have broken some steps of the blocks into smaller pieces to meet the needs of the children. As a result, teachers create a half termly overview for maths, enabling them to really delve deeper into the coverage and objectives, to ensure that teaching is tailored to the class.

Teachers select from the White Rose (scheme and new 2022 premium materials), NCETM and other interesting sources such as Third Space and NRICH to meet the needs of the children and aim to teach high to give all pupils the opportunity to progress to and beyond the expected levels. We learn through a mastery approach with the aim that all children are able to access the lesson, using a range of different scaffolds suited to them. Teachers embed the '5 Big Ideas' provided by NCETM into their

lessons, and use a clear lesson structure which aids progression, ultimately leading to mastery. ***All classes in Key Stage 1 and Key Stage 2 use the following structure in their planning, teaching input, on working walls, and in exercise books:***



Prior learning is revisited daily at the start of each lesson, using White Rose Fluency Boost materials to aid retention of arithmetic skills and recall of essential math facts.

An arithmetic lesson is taught weekly, in every class, starting at Year 1. This focusses in on number and times table facts, to ensure that we are constantly bridging gaps that may appear in learning. We highly value the importance of number fluency, and therefore every class from Reception teaches **NCETM Mastering Number** sessions daily. These are short fifteen minute sessions which revisit composition of number, number fluency and place emphasis on using good quality mathematical vocabulary through conceptual learning. As a school, we have invested lots of time in the local Maths Hub training programmes in order to ensure high quality delivery of this scheme.

Inclusivity

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. All children should be taught the relevant year group's programme of study if possible and given the opportunity to succeed, though some children's starting point maybe different. **All abilities have opportunities to reason and problem solve.** At Dove Bank, the use of daily counting and the practical use of clocks is highly valued and encouraged. Teachers are also encourage to use White Rose 'Ready to Progress' materials to support children working below Age Related Expectations.

Each classroom has a wealth of concrete apparatus and imagery (which is regularly audited), that the children can select for themselves or be guided to use. The maths working wall features current vocabulary, modelled processes and calculations, varied representation and prompts for deeper mathematical thinking. Working walls are reflective of the mastery lesson structure delivered by teachers.

Lessons are taught in the morning if possible, for up to one hour daily. Some classes may complete simmering activities such as fluent in five, additional arithmetic etc, at other times e.g. register time.

Children record their work in blue squared paper exercise books, drawing a margin into their books at the start of each lesson. The visual nature of maths necessitates some sticking in of printed tasks. Teachers ensure children develop independent recording skills in some activities alongside these. The

expectation is that this increases as the children move through the school. Photos are used and in early years uploaded onto Tapestry, which is kept as evidence of learning activities. Books are introduced in Reception, with the expectation of one piece of work completed in them weekly. Reception are also encouraged to record in a floor book in order to gather valuable assessment information.

Assessment

It is expected that all maths work is marked in line with the School's marking policy.

Formative assessment is on-going and Class teachers assess the pupils in their classes, using the work completed in class and record these on Insight. Additionally, pupils take an NFER test at the end of each term. Children working below ARE may complete a NFER test from another year group, at the teacher's discretion. A standardised score is given and recorded on Insight Tracking.

Teachers administer White Rose end of block assessments (A) after teaching a unit of learning. Assessment B for this unit is then administered after teaching the subsequent unit, to assess retention.

Teachers are also keen to assess children's fluency in number, in line with our precedence to raise standards in this area. To assess retention and fluency of number facts, teachers use White Rose 1-Minute Maths app in an informative manner, and this informs planning of arithmetic lessons and intervention need. Teachers of Y2 upwards, are also encouraged to use Times Table Rock Stars heatmaps to identify gaps in multiplication fact recall. TTRS is used from Reception to Y6 (beginning with Numbots, before moving onto times tables in Y2). We have reward cards and a weekly class trophy prize, a scheme used to encourage and celebrate practice of tables.

Statutory tests are completed in Y2 and Y6, as well as Y4 children taking part in the Multiplication Tables Check.

Vulnerable pupils, agreed upon within pupil progress meetings, are assessed at the half term point and a brief meeting to discuss provision and progress takes place.

Maths across the Curriculum

Maths is integral to many subjects across the curriculum at Dove Bank. Some examples include:

Geography
Map reading in Geography requires skills in interpretation of scale to measure distances. Analysing weather patterns demands key mathematical skills.

Design Technology
DT requires children to work with measurements, shapes and 3D mathematical modelling.

Science
The opportunities in Science to use Maths learning in a real world context are numerous. Children are required to test predictions, record and measure, apply mathematical concepts, calculate results, use and interpret data appropriately and create tables and graphs.

English
Maths and English work together to further deepen children's understanding and create opportunities to communicate mathematical thinking. Children need to use their written English skills to carefully answer reasoning tasks. Furthermore, Children use their language skills to communicate their ideas

mathematically and justify their reasoning using modelled language. Writing up experiments that involve the interpretation of data can back up an argument with evidence (this could relate to climate change, or selling a design for a product in a DT lesson).

History
Children use chronology to order dates and events, and also explore mathematical, historical concepts such as Roman Numerals.

SMSC
Here are some examples of how our broader curriculum promotes the development of SMSC through mathematics:

Spiritual	Making connections between learning mathematical skills and application in a real-life context. Looking at pattern, order, symmetry and scale and relating this to meaning in religious contexts; both man-made and natural objects. Completing activities which develop the children's critical and independent thinking skills when working through mathematical problems.
Moral	Listen to and respond appropriately to the views and ideas of others. Gain the confidence to develop our own learning and have the confidence to cope with set-backs and learn from our mistakes. Take initiative and act responsibly with consideration for others when working independently, in small groups and as a whole class. Praise children for their critical and independent thinking in class when working on their own, as a small group or as a class. Engaging pupils in their learning through the resources they select and the independence they show in their learning. Helping children to recognise how logical reasoning can be used to consider the consequences of particular decisions and choices and helping them to learn the value of mathematical truth.
Social	Helping children to work together productively on complex mathematical tasks and helping them to see that collaborative working can, in some cases, be more beneficial than working independently to achieve the same outcome. Sharing resources in the classroom and negotiating of responses when solving problems in small groups and whole class.
Cultural	Encouraging children to ask questions about the history of maths – linked to the curriculum – Greeks and Romans. Helping children to appreciate that mathematical thought contributes to the development of our culture.

	Help children to understand that mathematical thought is becoming increasingly central to our highly technical future. To help children to recognise that mathematicians from many cultures have contributed to the development of modern day maths.