Grove School

Mathematics
Policy

Mission statement:

“Enjoy, learn, achieve”

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Policy for mathematics

1. The what and the why.

Mathematics is far more than numbers and equations — it is a universal language that empowers children to make sense of the world around them. At Grove, we believe that every child is a mathematician in the making, capable of thinking logically, solving problems creatively, and approaching challenges with confidence and curiosity. Remember, “The answer is just the beginning” of the mathematical journey.

From the moment children begin to count, compare, and explore patterns, they are laying the foundations for a lifetime of learning. Mathematics nurtures essential life skills — from managing money and telling the time, to understanding data and making informed decisions. It also fosters resilience, perseverance, and the joy of discovery.

Our vision is to ensure that every child leaves primary school with a positive mathematical mindset — equipped with the skills, confidence, and enthusiasm to thrive in an ever-changing world.

Mathematics helps us to make sense of our world. It is a powerful, universal language used to explain, predict and represent events and tackle everyday problems. Mathematics is of central importance to our modern society. It is an essential part of everyone’s daily life and critical to science, technology, finance and engineering. Mathematics is necessary for any employment or independent life.

At Grove School we aim not only to prepare our children for the next stage of their education, but also to lay the foundations for successful lives after school. Our aim is to prepare our children for the jobs of tomorrow, which will require greater mathematical skills than in the past, including thinking mathematically in order to use technology that doesn't yet exist.

The aims of our maths teaching at Grove School are aligned with the aims of the National Curriculum: **fluency, reasoning** and **problem solving** – both in the mathematics lesson and across the curriculum. We recognise that pupils need to learn basic number facts and acquire **fluency in procedures**, alongside **developing conceptual understanding** if they are to be able to solve increasingly complex problems in life and later in the workplace.

In 2023-2024 we took our first steps in developing a maths **mastery approach** with the ambition to ensure that we set and maintain the highest of expectations of all our pupils. In 2025-2026 we sought to embed all that we have learned about Mastery maths across the school and roll out Mastering Number into KS2. We successfully applied to become a Teaching for Mastery specialist school. Mrs E Rice will be trained as a maths mastery specialist through NCETM. This will strengthen the partnership with the Central Maths Hub team and ensure that our maths philosophy and pedagogy continues to be strengthened. Our vision is to make the mathematics curriculum accessible to all pupils; moving them through the programme of study at broadly the same pace, with opportunities to work on the objectives more deeply for those who rapidly grasp concepts. All children need a deep understanding of the mathematics they are learning in order that future learning is built upon firm foundations. Daily, in-the-moment interventions led by the class teacher backed up by catch-up sessions where needed prevent children falling behind.

We believe that all children including those struggling learners are capable of learning and doing mathematics, given sufficient time, good teaching, appropriate resources and effort.

2. Aims of the National Curriculum for Mathematics

The National Curriculum for Mathematics in England aims to ensure that all pupils:

1. ***Become fluent in the fundamentals of mathematics***
   Pupils develop a strong understanding of number, calculation, and key mathematical concepts through varied and frequent practice. This fluency enables them to recall and apply knowledge rapidly and accurately.

2. ***Reason mathematically***
   Children learn to follow a line of enquiry, identify relationships and patterns, and develop arguments and justifications using mathematical language. Reasoning helps deepen understanding and supports problem-solving.

3. ***Solve problems by applying mathematics***
   Pupils are encouraged to tackle a range of problems with increasing sophistication, including breaking down problems into simpler steps and persevering in seeking solutions.

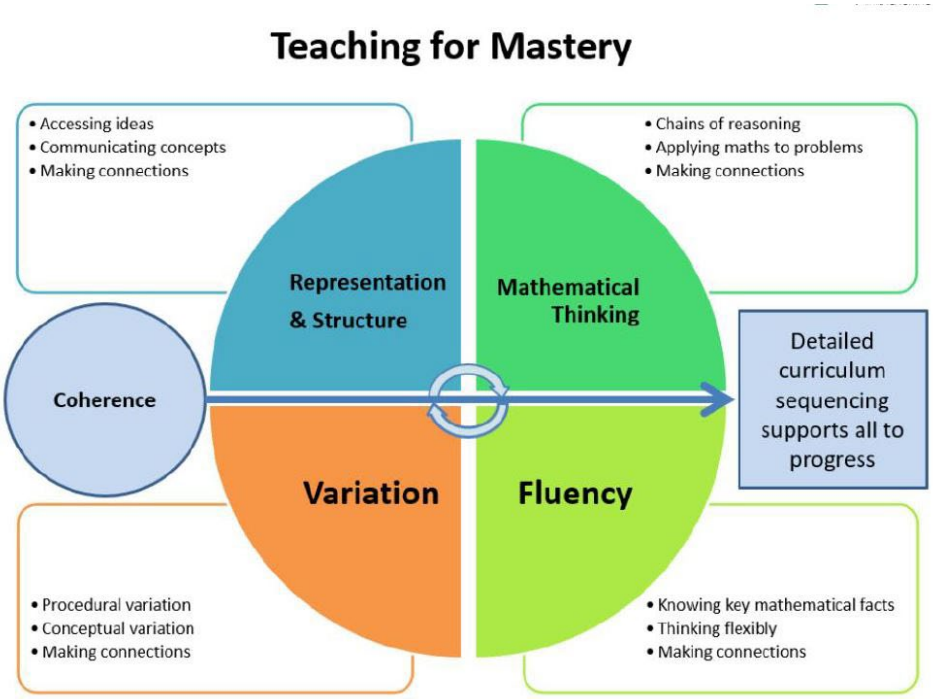
These aims are embedded across all areas of the mathematics curriculum — including number, measurement, geometry, and statistics. Our teaching reflects these aims by providing a rich, balanced, and progressive mathematics curriculum that supports all learners to achieve their full potential.

3. Implementing the National Curriculum through NCETM Mastery pedagogy

Grove school has been part of an NCETM workgroup for the last two academic years seeking to develop and embed a mastery philosophy and pedagogy. Its mastery approach is rooted in the belief that every child can succeed in mathematics, given the right teaching and support. Teaching for mastery philosophy aligns closely with the National Curriculum's core aims: fluency, reasoning, and problem-solving.

Key principles of the Maths Mastery approach include:

1. **Deep conceptual understanding**
   Rather than rushing through content, mastery encourages teachers to help pupils develop a secure and deep understanding of mathematical concepts. This ensures that learning is built on firm foundations and can be applied flexibly.
2. **Coherence and small steps**
   Lessons are carefully sequenced in small, connected steps that gradually build understanding. This coherence helps all pupils to grasp new ideas and reduces the likelihood of gaps in learning.
3. **Mathematical thinking and reasoning**
   Pupils are regularly encouraged to think mathematically — to explain, justify, and explore. This supports the curriculum aim of developing reasoning skills and helps children articulate their understanding.
4. **Fluency through intelligent practice**
   Practice is designed not just to reinforce procedures but to deepen understanding. Pupils engage in varied and purposeful tasks that promote fluency and flexibility in applying mathematical knowledge.
5. **Inclusive and adaptive teaching**
   Mastery approach supports inclusive teaching, where all pupils are expected and supported to achieve. Differentiation is achieved through depth rather than acceleration, ensuring that every child can access and master the curriculum.
6. **Use of high-quality resources and professional development**
   NCETM through our Central Maths Hub provide a wealth of resources, including curriculum prioritisation materials, professional development programmes, and guidance for teaching key concepts. These tools support our maths leads to implement consistent, high-quality mathematics teaching across all year groups.



By embedding these principles into everyday practice, Grove school can ensure that the National Curriculum's vision for mathematics is not only met but brought to life in a way that is meaningful, engaging, and empowering for all learners.

5. Mathematical scheme and small step approach - Maths No Problem! (MNP)

Grove School uses the Maths No Problem Scheme from EYFS to Year 6. This is a DfE-approved textbook scheme based on the Singapore approach to mastery. It supports deep conceptual understanding, problem-solving, and reasoning through carefully structured lessons and high-quality resources.

Why Maths — No Problem!?

5.1 Deep conceptual understanding

The programme emphasises understanding over rote-learning. Pupils explore mathematical concepts through concrete, pictorial, and abstract (CPA) representations, helping them build strong, transferable knowledge.

5.2 Cyclical and well sequenced small-step programme

Each lesson is carefully sequenced to build on prior knowledge and introduce new concepts in manageable steps. This supports long-term retention and reduces cognitive overload.

5.3 Focus on reasoning and problem-solving

Problem-solving at the heart of every lesson. Pupils are encouraged to think critically, explain their reasoning, and explore multiple methods of solving problems.

5.4 Inclusive and supportive for all learners

The mastery approach means all pupils move through the curriculum at the same pace, with support and challenge provided through questioning and depth rather than acceleration. This promotes equity and high expectations for all.

5.5 High-quality resources

The textbooks and workbooks are visually engaging, carefully designed, and aligned with the National Curriculum. They provide consistency across year groups and support teachers in delivering high-quality lessons.

5.6 Professional development and teacher Support

MNP offers extensive video based CPD and support for all teaching staff through its HUB. This will help deepen subject knowledge and mastery pedagogy which will in turn help build teacher confidence.

5.7 Proven Impact

The programme is backed by research and has been recognised by the DfE as a high-quality mastery resource.

If we continue fidelity in implementing the mastery approach using this scheme then we will see the impact in improved pupil outcomes, greater engagement, and a more positive attitude towards maths.

6. Putting it all together - What does maths teaching and learning look like at Grove?

As stated above our mathematics philosophy and pedagogy is shaped by NCETMs Maths mastery approach to. We have chosen to use the DfE approved maths scheme – Maths No Problem! which sequences mathematical skills in small, coherent and developmental steps.

An important step in our mastery journey has been the development of a separate fluency session distinct from the main maths lesson. Mastering Number (***phonics for maths)*** will be embedded across all the key stages from September 2025 after initially piloting it in Reception and Year 1 & 2 in 2024-2025.

6.1 Fluency – core practices & pedagogy

Reception follow the Mastering Number scheme. This will form the medium-term and short-term planning for the timetabled fluency sessions.

Key Stage 1 follow the Mastering Number scheme. This will form the medium-term and short-term planning for the timetabled fluency sessions.

Year 3 to follow the Mastering Number consolidation scheme. This will form the medium-term and short-term planning for the timetabled fluency sessions.

Year 4 & 5 to follow the Mastering Number scheme. This will form the medium-term and short-term planning for the timetabled fluency sessions.

For 2026-2027 academic year – current Year 6 will follow the Year 5 Mastering Number scheme. This will form the medium-term and short-term planning for the timetabled fluency sessions.

Mastering Number runs from Monday to Thursday. The Friday sessions are to be used for the following fluency practices:

Reception: Mastering Number will provide the core mathematical stimulus for learning in number and numerical patterns. The 2026-2027 Mastering Number scheme has been reviewed will now include spatial reasoning as part of the scheme. Other key areas of mathematics – shape, measures etc – will draw upon the Maths No Problem scheme. Continuous provision will build on the concepts and allow children to explore and discuss these concepts further both inside and outside the classroom.

Year 1: Monthly 11 Maths club badge version a, b & c; Numbots & Mastering Number consolidation.

Year 2: Monthly Maths club badges (Up to 33 Maths Club- all versions); Numbots & Mastering Number consolidation.

Year 3: Monthly Maths club badges (Up to 66 Maths Club – all versions); TTRS & Mastering Number consolidation.

Year 4: Monthly Maths club badges (Up to 99 Maths Club Badges – all versions); TTRS & Mastering Number consolidation.

Year 5: Monthly Maths club badges (Up to 101 Maths Club Badges – all versions); monthly arithmetic test; Maths Shed and Mastering Number consolidation.

Year 6: Monthly Maths club badges Up to 101 Maths Club Badges – all versions); monthly arithmetic test; Maths Shed and Mastering Number consolidation.

6.2 Main maths lessons:

Reception follow the Mastering Number planning and scheme – supplemented from Maths No Problem scheme.

Teachers from Year 1 to Year 6 follow the MNP scheme – supplemented with NCETM guidance and materials. Please refer to guidance provided by the maths lead with regard to changes to the MNP scheme and the use of 'white space' (non-designated maths teaching time) in your maths scheme of work.

Lessons are structured around the **5 Big Ideas of Teaching for Mastery** (**Representation & Structure, Mathematical Thinking, Fluency, Variation and Coherence**) providing opportunities throughout for using mathematical vocabulary, developing mathematical thinking and using multiple representations. There should be opportunities to record in every lesson (in different ways).

Although maths is taught as a discrete subject, staff are encouraged to exploit any cross-curricular links and provide opportunities for children to demonstrate their mastery of concepts or skills in other subjects (eg: science, ICT, PE, topic).

It is the responsibility of teaching assistants supporting individuals or groups of children within a maths lesson to ensure they have read, and if required, discussed the planning with the class teacher and prepared any required resources. They are expected to provide feedback to the teacher on a daily basis for the children they have been working with.

Weekly short-term planning is to be recorded on either SmartNotebook or Pomegranate and shared with your team via Sharepoint or via a link sent directly to your team and maths leaders (E.Rice, B.Roberts and J.Bentley).

Shared planning must be adapted by individual class teachers and reference adaptations needed for SEND and for those who are able to move to depth on the day.

Maths lessons follow a mastery pedagogy. Listed below is a summary:

1. 5- minute maths retrieval activity (Maths rhymes/chants, maths game).
2. Anchor task – exploration, partner work, afl opportunity, clear context for all maths questions.
3. Use of appropriate and relevant representations to reveal maths structures (CPA approach).
4. Episodic teaching – model concepts – exploration – afl – variation – misconceptions addressed.
5. Oracy – use of statement stems, partner talk and accuracy in mathematical language..

6. Mixed-ability prior attainment classes; mixed ability partners (only exception – children on EHCP).
7. MNP workbook and daily journaling for children's independent work and reflections.

In every maths lesson we should see:

- A positive attitude toward and sense of excitement about mathematics.
- All children learn through active enquiry and experiment using concrete materials, represent their mathematical ideas through images and follow a clear progression toward recording abstractly.
- Children learn to use multiple representations which ensures depth of understanding.
- Mathematical skills are practised and applied across the curriculum.
- A mathematically rich environment supports learning - resources and working walls.
- Communication, using precise mathematical language is an expectation.
- Independence is encouraged.
- Varied fluency and flexibility of thinking and approaches feature strongly in every lesson.
- Teachers and TAs use skillful questioning to reveal, probe and address misconceptions.
- Children who grasp concepts rapidly are challenged to work more deeply through completion of rich and sophisticated problems (Challenge questions).
- Scaffolding is provided for children when required.
- Skillful assessment identifies children who are struggling to grasp concepts leading to guided groups and live in the moment interventions and follow-up sessions where available.
- Children using their maths journals regularly to support them children in becoming confident, reflective, and articulate mathematicians.
- Use of high quality textbooks ensures a coherent, progressive journey through the curriculum

- Assessment opportunities throughout the lesson. This provides opportunities to evaluate what has been learnt, review success and address misconceptions. It should also provide opportunity for peer/self-assessment so children understand what they attained and where to go next.
- **Split Lessons in years 3 and 4 (timetable permitting)** (2 x 30-minute lessons with a break in between). This ensures that the children are working to their full potential.

6.3 Journaling

Every child is encouraged to journal their maths development, ideas and thought processes. Maths journaling invites pupils to **think deeply**, **explain their reasoning**, and **make sense of their learning** in a meaningful way.

Why Maths journaling matters:

- **It encourages mathematical thinking**
  Journaling prompts children to reflect on how they solved a problem, why a method worked, or what they noticed about a pattern. This nurtures metacognition — thinking about one's own thinking — which is essential for mastery.

1. **Develops reasoning and communication skills**
   By writing or drawing their mathematical ideas, pupils learn to express their reasoning clearly and logically. This supports the National Curriculum aim of developing mathematical reasoning and helps children internalise key concepts.
2. **Supports all learners**
   Journaling provides a window into each child's understanding. It allows teachers to identify misconceptions, celebrate progress, and tailor support. For pupils who may struggle with verbal explanations, it offers an alternative way to communicate their thinking.
3. **Promotes ownership and independence**
   When children record their strategies, questions, and reflections, they take greater ownership of their learning. journaling encourages independence and helps pupils see themselves as capable, curious mathematicians.
4. **Builds a growth mindset**
   Reflecting on mistakes, exploring different methods, and revisiting previous work helps children understand that learning is a journey. Journaling reinforces the idea that effort and perseverance lead to progress.
5. **Creates a record of learning**
   Maths journals become a rich portfolio of a child's mathematical journey — showing not just what they've learned, but how they've learned it. They provide valuable insight for teachers, parents, and the children themselves.

Journaling can take place at any stage of the lesson structure. It can form part of the anchor task, during the episodic teaching input, paired tasks, independent work and plenary. The key is to create space frequently and plan for journaling. Model how to do it initially until all children are confident and are clear on the expectations.

6.4 CPA approach

It is important that children are allowed to explore maths and present their findings not only in a written form but also visually and verbally; to that end the school, in line with MNP and maths mastery continues to develop its CPA approach: concrete, pictorial, abstract.

What is CPA?

1. **Concrete**
   Pupils begin by using physical objects (manipulatives) such as place value counters, cubes,

base ten blocks, or rekenreks. This hands-on experience helps them explore and understand mathematical ideas in a tangible way.

2. **Pictorial**
   Alongside concrete materials, children learn to interpret visual representations such as bar models, number lines, or diagrams. This stage can often form a bridge between the physical and the abstract.
3. **Abstract**
   Alongside at pictorial representations children make links with abstract mathematical symbols, notation (e.g. numbers, operations, equations) and structures to represent their understanding.

The CPA approach is not a progression of skills but should be used alongside each other to help the child make links and understand the mathematical structures being taught.

Why is CPA Important?

- CPA ensures that children don't just memorise procedures but understand *why* they work. This depth of understanding supports long-term retention and flexible thinking.
- The approach is inclusive and accessible. It allows all pupils — regardless of starting point — to engage with mathematical ideas in a meaningful way.
- Maths is abstract in its nature - Many children struggle when introduced to abstract symbols too early. CPA provides a scaffolded journey that builds confidence and fluency before formal methods are introduced.
- By using CPA interchangeably and alongside each other, pupils are constantly making connections, explaining their thinking, and justifying their methods — all key components of mathematical reasoning.
- CPA is central to the mastery approach promoted by the NCETM and schemes like *Maths — No Problem!*. It supports the belief that all children can achieve in mathematics when given the right tools and time.

7. Planning

We believe that the key to success with all learners is quality first teaching (QFT*). This is promoted through ongoing bespoke professional development from the maths leaders who have undertaken specialist training programmes in maths through NCETM Central Maths Hub and by Maths No Problem!

Planning is underpinned by the 5 Big Ideas of Teaching for Mastery using a textbook from the DfE approved list. In Nursery, White Rose Medium Term scheme for indoor and outdoor learning in mathematics is provided. In all other year groups from Reception through to Year 6 Maths No Problem! is being followed, supplemented by the NCETM schemes.

Shared PPA ensures that planning is a collaborative exercise. Planning must always be guided by sound *formative assessment* strategies and teachers record information about the children in their AFL notebooks to ensure guided groups, same-day interventions and next plans for adaptive teaching are recorded.

These schemes provide teaching staff with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving and key aims of the National Curriculum. They support a mastery approach to teaching and learning and have number

at their heart. They ensure that the core value of *depth before breadth* is prioritised. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem-solving elements into the curriculum.

Please refer to the calculations policy 2026-2027 to ensure consistency of mathematical language and representations when planning.

7.1 MTP overviews

Each year group has a MTP overview provided by Maths No Problem! This details the main teaching blocks for each term ensuring there are planned opportunities to reason and problem solve as well as developing fluency. These documents can be found on the MNP! teacher Hub but are also saved on Sharepoint. When looking at the MTP plans please refer to the ***White Space*** document provided by MNP! This provides the percentage of lessons that have not been allocated a small step. It is also worth checking to see how the small step has been classified if more time is needed to consolidate learning.

Reception planning will primarily use the MTP overviews provided through Mastering Number. This will be supplemented with the foundation planning found on the MNP! teacher hub to consolidate and supplement other areas of mathematical learning.

7.2 Short term planning

The above schemes of learning support daily lesson planning. Weekly short-term planning is to be recorded on either SmartNotebook or Pomegranate and shared with your team via Sharepoint or via a link sent directly to your team and maths leaders (E.Rice, B.Roberts and J.Bentley)

Shared planning must be adapted by individual class teachers and reference adaptations needed for SEND and for those who are able to move to depth on the day.

Small step learning objectives are to be recorded on the interactive slides for the teacher but are not shared with the children at the start of the lesson in order to encourage the children to think carefully about anchor tasks and what they are learning.
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7.3 Special educational needs & disabilities (SEND)

We aim to provide a rich mathematical education, which will develop the potential of all pupils. Daily maths lessons are inclusive to pupils with special educational needs and disabilities.

Any child who is assessed to have special education needs in mathematics will have maths targets created through use of Birmingham's Individual Target Plan process. When progress falls significantly outside the expected range, the child may have special

educational needs. Our assessment process looks at a range of factors such as classroom organisation, teaching materials, teaching style, and differentiation so that we can take some additional or different action to enable the child to learn more effectively. Ongoing formative, and summative assessment allows us to consider each child's attainment and progress against expectations. This ensures that our teaching is matched to the child's needs. Where appropriate, specific strategies and intervention programmes relating to mathematics are implemented.

School helps children with gaps in their learning. These are delivered by class teachers and teaching assistants and overseen by the class teacher, year group leader, assistant head teacher and SENCO. Within the daily maths lesson teachers have a responsibility to utilise adaptive teaching strategies and draw upon their in-lesson afl to provide sufficient scaffolding for the least able and challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

Moderation of pupil books, arithmetic scores and pupil progress meetings will support the identification of pupils who are not meetings expected standards in maths. Following discussion with the year group leader the following may take place:

- Targeted support within maths lessons for the pupil
- Targeted support within intervention sessions from a teacher or teaching assistant
- Inspire workshops for parents
- An Individual Support Plan with clear learning targets
- If following a series of interventions, a pupil is displaying significant needs in maths, school will seek to refer to Pupil and School Support Service.

For further information please refer to the school policy for Special Educational Needs and Inclusion.

7.4 Inclusion

Teaching maths for mastery is different because it offers all pupils access to the full maths curriculum. This inclusive approach, and its emphasis on promoting multiple methods of solving a problem, reduces maths anxiety builds self-confidence and resilience in pupils.

Adaptive teaching and learning ensures equity is priorities. Taking a mastery approach, adaptive learning and differentiation occurs in the support and intervention provided to different pupils, **not** in the topics taught, particularly at earlier stages. Independent activities must be adapted to enable the least confident and extend those who are fluent and need to move into deeper thinking.

There is no differentiation in content taught, but the questioning and scaffolding individual pupils receive in class as they work through problems will differ, with higher attaining children, or those pupils who grasp concepts quickly, challenged through more demanding problems which deepen their knowledge of the same content. Those children who are not

sufficiently fluent are provided additional support to consolidate their understanding before moving on. Pupils' difficulties and misconceptions are identified through immediate formative assessment and addressed with intervention – commonly through individual or small group support within that lesson.

7.5 Organisation

EYFS
The focus in EYFS is divided into two key learning goals: number and numerical patterns.

Number: Children at the expected level of development will have a deep understanding of number to 10, including the composition of each number; subitise (recognise quantities without counting) up to 5; automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including doubling. A daily fluency catch-up session aims to support those who are less confident in counting to 10.

Numerical patterns: Children at the expected level of development will verbally count beyond 20, recognising the pattern of the counting system; compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Mathematics within EYFS is developed through purposeful, play-based experiences and will be represented throughout continuous provision both indoor and outdoor. The learning will be based on pupil's interests and current themes and will focus on the expectations from the statutory framework for the early years foundation stage. Mathematical understanding can be developed through the Mastery Number programme and enhanced through the use of stories, songs, games, imaginative play, child-initiated learning and structured teaching. As pupils progress, they will be encouraged to record their mathematical thinking in more formal ways.

Key stage 1 and 2

In years 1 to 6 children have a daily maths lesson of between 45 minutes in KS1 and 60 minutes in Key stage 2. In KS1 and KS2 the main maths lesson is supplemented by a separate maths fluency session lasting 20 minutes. In years 3, 4 and 5 maths lessons and split 30 minutes prior to break and 30 minutes following break time. Children are taught in their classroom by their teacher. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent to be identified within the lesson through use of teacher assessment and misconceptions and misunderstandings are addressed immediately.

Children are set a weekly homework task in order to strengthen their learning in mathematics. Completion of homework tasks are logged in the mark books on Sharepoint.

Teachers use the Maths No Problem (MNP) planning and resources to aid maths teaching within school. Teachers follow the scheme of work provided by MNP to ensure full curriculum coverage including fluency, reasoning and problem-solving opportunities are addressed within each lesson.

Every teaching block is broken down into a series of small steps that link to a national curriculum objective.

We have adopted a whole class approach to teaching and children work in mixed ability groups. We believe that all children should have the same standard of teaching and to ensure this we aim not to group children based on their ability.

The emphasis in lessons is to make teaching interactive and lively, to engage all children encouraging them to talk about mathematics.

8.Home learning activities. (Maths shed)

Children are given home-learning activities that develop and consolidate fluency. Year 1 & 2 - Children are encouraged to practise their number bonds using Numbots. In Year 1 - 4 Children are encouraged to practise their multiplication and division facts using TTRS. Children in Year 5 and 6 may have supplementary homework using Maths Shed.

8.Assessment and record keeping

8.1 **Marking/Feedback -** Please refer to the Marking policy 2026-2027

Marking of children's work is essential to ensure they make further progress and any feedback given needs to be in the moment as much as possible. Feedback reflects the learning objective and success criteria in line with the school marking and assessment policy.

8.2 Daily assessment

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of children daily through;
• regular assessment of pupils understanding
• analysing errors and picking up on misconceptions
• asking questions and listening to answers
• facilitating and listening to discussions
• making observations

These ongoing assessments inform live, in-the-moment interventions as well as future planning and teaching. Lessons are adapted readily and short-term planning evaluated in light of these assessments.

8.3 Termly assessment – baseline.

All year groups (Reception to Year 6) will completing a mastering number baseline assessment in September.
Year 2 to 5 will complete a Maths No problem baseline assessment in September.

Termly assessments are carried out in key stage one and key stage two using the assessment materials for each year group provided by MNP in line with the schemes of learning. These materials used alongside ongoing teacher assessment support class teachers in making a next steps judgement for each child which, in line with the assessment policy, is entered into the MNP tracking and evaluation tool and also on Sonar.

Outcomes of all assessments are logged electronically on the class markbooks on SharePoint. This includes raw scores for each of the tests, a total score, standardized score and teacher assessment judgement.

Pupils in year 6 use SATS papers from previous years to assess termly at the end of the Autumn and Spring terms.

Pupil Progress meetings are timetabled each term for all classes. Progress of pupils is discussed and appropriate intervention considered and put in place where appropriate.

8.4 Annual assessments

Baseline assessments in Mastering Number (Reception to Year 6)
Baseline assessments Year 2 – 5 – Maths No Problem.

Y4 complete the multiplication check in June of each year.

Y6 complete the national tests (SATs) in May.

8.5 Maths club badges and arithmetic tests:
Year 1: Monthly 11 Maths club badge version a, b & c; Numbots & Mastering Number consolidation.

Year 2: Monthly Maths club badges (Up to 33 Maths Club- all versions); Numbots & Mastering Number consolidation.

Year 3: Monthly Maths club badges (Up to 66 Maths Club – all versions); TTRS & Mastering Number consolidation.

Year 4: Monthly Maths club badges (Up to 99 Maths Club Badges – all versions); TTRS & Mastering Number consolidation.

Year 5: Monthly Maths club badges (Up to 101 Maths Club Badges – all versions); monthly arithmetic test; Maths Shed & Mastering Number consolidation.

Year 6: Monthly Maths club badges Up to 101 Maths Club Badges – all versions); monthly arithmetic test; Maths Shed & Mastering Number consolidation.

9.Celebrating mathematical achievement

Each week there will be opportunity to celebrate the achievements of students in their progress in TT Rockstars, maths club badges and mathematics in general. A mathematician of the week certificate is awarded to any class member who has demonstrated Grove values within their maths work or exceptional reasoning and problem-solving skills.

In EYFS a weekly 'Maths magician' award will take place with the winner getting stickers and a certificate.

10.Expectations for mathematical presentation.

- All pupils to use pencils
- If using squared paper - one digit per square
- Short date is used (Pupils in years 5 and 6 write the date in Roman numerals)
- The small step lesson title is underlined in journals
- A ruler is always used to draw straight lines.

11.Maths working walls

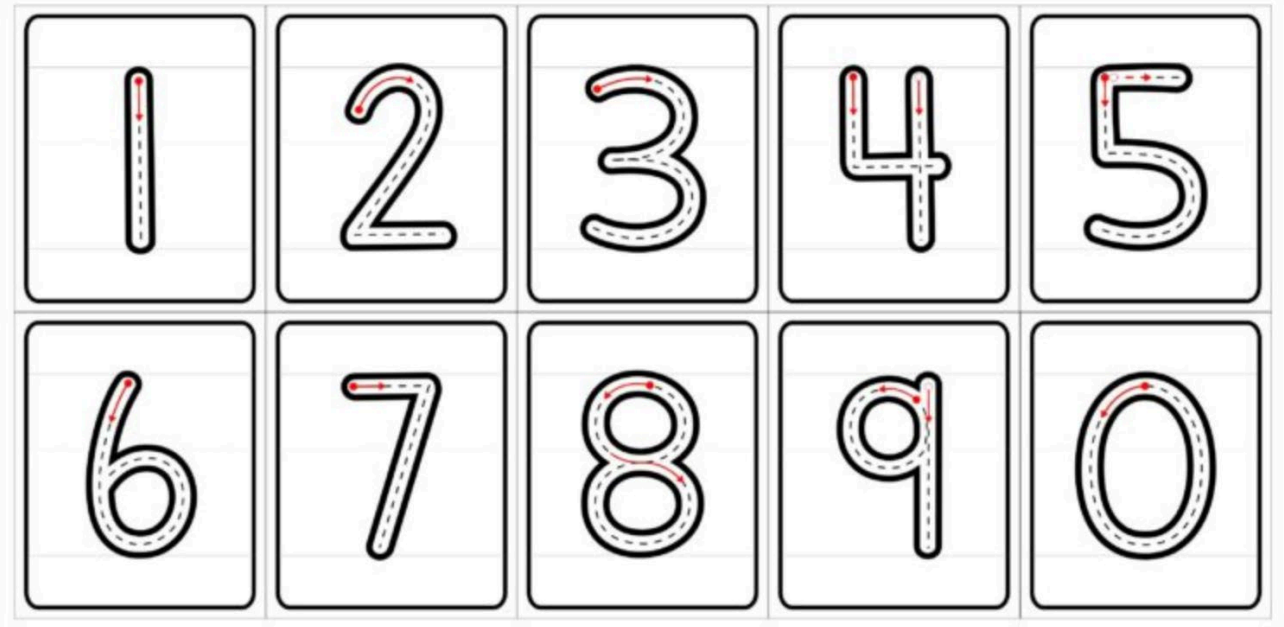
Each class must have the mathematical vocabulary and the sentence stems for each small step displayed on the maths working wall prior to that small step beginning. This can then be referred to during the lesson and support children in remembering key vocabulary and reduce cognitive load.

Where possible children's maths work on display in classrooms in order to encourage a positive attitude and enthusiasm towards mathematics for all groups of children.

Support resources on display and at an appropriate height to allow children to access them with ease. e.g. A maths 100 square, number lines, place value charts.

Class teachers may wish to display times tables posters in the classroom but these must be covered during maths club badges. Tabletop times tables should be available for pupils.

12.Correct number formation.



Staff ensure that this is correctly modelled at all times. Where pupil use a different form of the number, this is addressed in the maths books and pupils are given time to practise and consolidate the correct formation.

All large representations of the numbers above on display in the classroom must be in the agreed form.

13.Calculations policy

Grove school has an updated calculations policy for the teaching of addition, subtraction, multiplication and division. Please refer to that policy for further advice and guidance.

14.Contribution of mathematics to teaching in other curriculum areas

English
Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others during plenary sessions.

Science
During science lessons, children are able to use and apply their statistics skills when creating tables and graphs of scientific measurements. Whole class discussion of data also highlights the importance of clear recording of information. Children are also able to use a wide range of measuring devices in a real-life context. Children are required to read

the scales on Newton meters, measuring cylinders, weighing scales and a variety of other instruments.

Computing
Children use and apply mathematics in a variety of ways when solving problems and programming using computing. Younger children use computing to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships. .

Spiritual, moral, social and cultural development
The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. As children are working in mixed-ability groups and with their maths partners, children work together, explore and discuss their ideas and results. Children also have the opportunity to assess one another's work, finding positive aspects to celebrate and suggestions for ways to improve the work.

Art & Design
Math is important in art because it helps the artist make the artwork more visually appealing. Using specific ratios can also help create a more realistic image. Math is used by designers to coordinate and structure their designs. It is frequently used to determine the best use of space, where to place various pieces of furniture, or how much storage space is required. Area calculations are critical for this aspect.

PE and spatial reasoning
Cross-curricular links between mathematics, PE and spatial reasoning are particularly powerful because PE provides a practical, embodied context in which children can develop and apply mathematical thinking. Research into embodied cognition suggests that physical movement helps children develop their understanding of spatial concepts, which are strongly linked to later mathematical attainment.

Geography and spatial reasoning
Geography is one of the richest subjects for developing mathematical thinking and spatial reasoning because it requires children to interpret, represent and navigate space at different scales. In many ways, geography provides the real-world context for applying the spatial concepts that underpin mathematics. When embedding maths mastery, geography offers excellent opportunities to move from concrete experiences (physical landscapes) → representations (maps and diagrams) → abstract mathematical concepts.

15.Role of the maths curriculum leader

Lead in the development of mathematics throughout the school.
Help raise standards in mathematics.
Monitor the planning, teaching and learning of mathematics throughout the school
Provide teachers with support in the teaching of mathematics to ensure high-quality teaching and subject knowledge of staff.

Provide staff with CPD opportunities in relation to mathematics within the confines of the budget and the school improvement plan
Develop a coherently planned and sequenced mathematics curriculum which is reviewed regularly.
Secure and maintain the effective use of high-quality resources.
Keep up to date with new developments in the area of mathematics.

16.Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the maths curriculum leader and the senior leadership team.

Class teachers prepare for termly progress meetings and the maths curriculum leader meets with teachers, assistant heads and year group leaders in EYFS, key stage 1 and 2 to review the progress of all pupils in mathematics. Pupil books and teacher records are also scrutinised at these meetings. The maths curriculum leader prepares termly reports on progress in mathematics for the head teacher and governing body.

17.Parental partnership

It is important that parents and carers are actively involved in the children's education. In order to help keep them informed of what is happening within school we organise termly parent workshop sessions which have looked at developments within the school, new methodologies for delivering the teaching of maths and also updating parents on any changes relating to assessment/testing arrangements.

We seek to develop our partnership with parents through:

- Attending Special Educational Needs Review meetings to review Individual Support Plan targets.
- Attending parents' consultations to review progress and share targets.
- Supporting their child completing homework.
- Parental workshops