



Maths at Grange View CE First School

This is a guide for anyone who is visiting Grange View C.E First School to explain our approach to Maths in school. *Updated February 2023*



OUR INTENT: Why our Maths Curriculum looks like this.

We have developed a maths curriculum that is progressive, challenging and engaging. We appreciate that fluency and a confident number sense are essential for our pupils to flourish and progress in their mathematical learning based on their starting points. We fully value offering our children the opportunity to work with a variety of concrete and pictorial representations to facilitate and support the teaching and learning of mathematical concepts whether in Early Years or Key Stage 2. This approach is pinnacle to the development of our children's mathematical thinking and equipping them for their next stage of their education. Reinforcement is achieved by ensuring knowledge is revisited regularly throughout the year groups to create confident number sense for all.

Our children need to develop necessary skills to make them 'deep thinkers' acquiring maths skills that can be recalled quickly and transferred and applied in different contexts. They need to be able to make rich connections across the areas of maths and use their knowledge in other subjects. Maths is the foundation for understanding the world and we want our children to know the purpose behind their learning and to apply their knowledge in their everyday lives, with the intention of raising aspirations and creating a continual love of learning maths inclusively for all.

Planning

As we have adopted a mastery approach to our teaching, we are drawing upon the 'White Rose Maths Hub' materials to support our long term coverage. This demonstrates longer periods of time set out for number and place value.

Teachers use long term, medium term and short term planning, supported by the NCETM ready to progress documents .

Teachers develop a series of 'small steps' to support the achievement of objectives, supported by the prioritisation materials. We call this our Maths Learning Journey, which is shared with the children.

Mastering number is used as a separate 10-15 minute sessions with all children in Reception, Y1 and Y2 to build greater number sense.

Tasks and activities are planned and adapted from a variety of sources support the engagement and creativity of lessons these include: Mastery Materials, White Rose Hub Schemes and small steps, NRich, Power Maths books, Classroom Secrets and NCETM including reasoning progression mats.

The Maths Working Wall and learning environment

All classrooms have established their Maths Working Wall which is used as a tool to reinforce and facilitate learning within the Maths lesson.

- Y1-4 display CPA approaches taught within the unit
- Key vocabulary as it is taught
- Resources to support current topic or unit
- Stem sentences to encourage full sentences and challenge non examples
- EYFS display current learning through photographs, activities carried out as a class, accessible resources.

Assessment

Formative and summative assessment

WRMH termly Maths assessments

SIMS

Weekly annotated plans and daily lesson evaluations

Moderation (internal and partnership)

Homework and Fluency

Weekly online school 360 homework

Weekly Times table rockstars KS2

Rapid recall mats used in KS1 and trialled in Y4

Time

5 hour long sessions of Maths per week

Daily Maths meetings/ this is a five minute fluency session based on a cohorts needs.

Same day interventions timetabled daily

Book and Marking Expectations:

Teachers and TAs mark in lessons where appropriate. Chn sometimes peer and self assess. Teacher comments should be impactful and provide challenge or support (See marking policy for more information).

You will see a variety of fluency, reasoning and problem solving tasks within books. Not every lesson will have written evidence. Where concrete equipment has been used teachers will evidence learning through photos using pic collage , displayed in a class floor book and annotations on their planning.

SUBJECT SPOTLIGHT – STEM WEEK (March)

Maths is part of Science, Technology, Engineering and Maths so has it's spotlight amongst STEM week when we have visitors in and encourage the use of these subjects in future careers.

NSPCC Numbers Day (February)

We promote a love of Maths during Numbers Day inviting parents in to play games and see how the mastery approach impacts the children's mathematical learning

How are slower graspers and rapid graspers catered for?

All Maths sessions are pitched at end of year expectations. Teachers differentiate through skilful questioning to support and challenge, using a range of resources to support. We use mixed attainment pairs throughout KS1 and 2, which enables support and scaffold for learners.

What happens if a child has gaps and struggles with a concept?

This is addressed, where possible, during same-day intervention, homework or Maths Meetings. Teachers and TAs may have a focus group to enable all children to access tasks. All challenge and additional support opportunities are noted throughout the daily lesson evaluations as a collaboration between the class teacher and support staff.

Where it all begins: Early Years Starting points.

When starting their journey in Early Years the children have a very low starting point due to their limited experiences. Some are often able to count by rote but do not have an understanding of what those numbers mean. Throughout their time in Nursery and Reception they develop a greater understanding of number through carefully planned learning experiences, focussed tasks and the continuous provision. Specific number recognition, formation and concepts are taught alongside mathematical language. This is applied daily through creative and imaginative learning experiences, real life contexts and problem solving exploration. A mastery approach is adopted building confidence with the children's cardinality and counting, comparison, composition, pattern, shape, space and measure in preparation for building the five big ideas as they progress throughout the school.

Q of E: Pedagogical choices

- Mastery maths approach – all children learning the same thing together.
- Concrete materials used to embed and understand concepts
- Small steps progression throughout learning
- Use of stem sentences and key vocabulary to support reasoning and explanations

Q of E: SEND provision

- Concrete materials accessible in classrooms to support concept understanding and help make links
- 'Sneaky peak' pre learning opportunities used whenever possible to help children explore concepts ahead of the lesson
- Same day interventions used to revisit and secure understanding before the next step in the learning journey
- Encouragement of full sentence answers to help all understand mathematical thinking
- Support staff aiding guided groups and targeted support where needed in lessons

Implementation: How are they knowing more and remembering more?

Quality of Education	The teaching of mathematics is broad and balanced, ensuring there is a clear progression of learning throughout the school as well as within each year groups academic year progression. Accredited resources such as NCETM, nrich and white rose are used as a point of reference to support small steps progression of learning, sequential steps and curriculum prioritisation. Likewise, the use of GNMH training and hubs ensure that the subject leader and consequently all staff are kept up to date with current practise and new initiatives. Learning journeys are shared with the children so they understand the stages to each mathematical unit, what their prior learning has been and provide a bigger picture of the whole concept. The learning is sequenced so that place value provides the foundation for all future learning with more abstract concepts being explored later in the year when the four operations are secure. Assessment is done formatively throughout live marking and at the end of the lesson to address misconceptions and move learning forward. End of term assessments are used as a summative guide to what is in long term memory and what needs further reinforcement. Fluency Friday is used weekly in all KS1 and 2 classes to revisit concepts, pre teach new concepts and ensure that prior learning is embedded and not forgotten.
Behaviour and Attitudes	Our vision and ethos underpins all we do at Grange View, the children are encouraged to always let their light shine and be the best version of themselves. Mistakes are always celebrated and used as a learning hook for others, a growth mindset is continually encouraged with children responding well to praise and feeling safe to offer answers and have a go in a safe, secure environment. Lesson evaluation sheets record pupil participation, demonstrating enthusiasm to be active learners in lessons, contributing ideas and reasoning understanding. The Thrive approach of valuing all pupil contributions is always adopted with children behaving in a positive manner to their learning and making clear progress within a lesson. Labels in books indicate any missed attendance and interventions are planned for persistent absences that are showing evidence of gaps in their learning.
Personal Development	As mentioned earlier, Maths has a broad and balanced curriculum ensuring that the children are confident in their skills to use and apply in life. We are endeavouring to make explicit the real life contents in our learning, whenever possible, to help pupils see the purpose to their learning and how it can be used in later life. Our mastery approach ensures that no pupils are left behind, everyone is part of the learning journey and is supported through interventions, resources or input when necessary to ensure they achieve their potential in every lesson. Questions are always diverse in their nature, encouraging equality with the children of accepting all faiths and backgrounds despite having a narrow experience in their own community. Whenever possible, wider opportunities are sought to bring greater awareness and interest to the subject. NSPCC Numbers day is celebrated annually, inviting in parents to play maths games and showcase what the children have been learning. Through Picture news and Newsround, often discussions are fostered where maths has been used in a real life context, promoting diversity and equal opportunities for all as well as raising aspirations. Weekly celebrations for Mathletics, TTRS and merits are celebrated with parents through family worship and social media to highlight success in maths. Daily lessons certainly promote respect and tolerance, with mistakes being celebrated, all answers being welcomed and perseverance being encouraged to attempt challenging questions. Recently, moments of spirituality have also been fostered, having 'wow' moments when a great reasoning explanation is given or reflecting on how they are feeling 'now' as they see the journey they have taken in their maths.
Leadership and Management	As with all subjects, actions plans are written for Maths in light of the school self evaluation and are addressed through the school improvement plan. These actions often feed into performance management targets and are layered for different members of staff in school. As part of a Teacher research group (TRG), the maths lead is able to develop key aspects of maths across the school, currently the golden thread of variation. This training and knowledge is shared with all staff through staff meetings and additional training. Also staff are given the opportunity to develop their expertise further through workshops and webinars highlighted by the maths lead. Termly monitoring by the subject leader takes place with learning walks, book looks and pupil voice. The findings of which are structured on the 5 big ideas for mastery maths and both the strengths and areas for development are shared with staff and governors. Recent learning walks have regularly shown an accurate use of mastery maths with the CPA approaches, full sentence answers and small steps progression evident. Pupil voice shows the children's confidence in articulating both their prior and current learning, the marking and feedback as well as their growth mindset for celebrating mistakes. As mentioned in Q of E, live marking and daily assessments determine the interventions both daily and pre planned that take place for pupils. All developments for the subject are shared termly with link governors through face to face conversations, emails and joint learning walks.
Early Years	Early years follows the same mastery approach, ensuring all pupils build their understanding of cardinality and counting, comparison, composition, pattern, shape, space and measure in preparation for building upon the five big ideas as they progress throughout the school. There is lots of repetition to embed learning through mastering number, concrete materials and different experiences within the continuous provision. Focused tasks with adults allow concepts to be assessed or further taught with pupils individually, whilst carefully planned learning experiences throughout the early years ensure the fundamentals and maths sense is understood. Like with all mastery maths learning, there are small steps of progression, building on prior knowledge and using stem sentences and key vocabulary to help articulate the concepts. The prioritisation documents are used to ensure the most pertinent concepts are embedded with the children to ensure their end goals of Number and SSM are confident and transferrable across different experiences and contexts.

What is it like to be a pupil at Grange View studying Maths on a daily basis?

Learning maths at Grange View is challenging but fun, we celebrate mistakes and are enthusiastic to have a go. We use a range of concrete resources to support our learning and have many experiences such as Fluency Friday, Mastering number, Mathletics and TTRS to revisit concepts so learning is not forgotten.

