



Great Crosby Catholic Primary School



Mathematics Curriculum Statement

Following a disruptive few years due to the pandemic, we used our return to in-school teaching to develop and implement a new whole school approach to teaching mathematics. Experienced and specialist mathematics teachers from across the school met with external specialists to think about what we wanted from a maths curriculum for our pupils.

Our vision was to create a meaningful, purposeful and strong positive relationship between our pupils and mathematics. We wanted our staff to be motivated and encouraged so that they could share their love of the subject with their children.

Maths in Great Crosby

Allowing children to acquire a deep, long-term, secure and adaptable understanding of the subject is a priority of the 2022/2023 teaching year. We encourage children of all abilities to have the deepest learning so it can be transferred and applied in different contexts. The elements of classroom practice and Great Crosby's organisation combine to give all pupils the best chances of mastering maths from Early Years to year 6.

Staff provide tailored lessons which accommodate for the needs of all pupils. Our understanding of mastery is that all pupils are given the opportunity to acquire a solid enough understanding of the maths that's been taught to enable them to move on to more advanced material. Within each lesson, Mastery at Great Crosby includes: whole class teaching; small steps approach; demonstrations of reasoning and modelling; high expectations of all pupils; and the correct use of mathematical language. Here at Great Crosby, we understand that mastery is a journey and a long-term goal. We aim to help our pupils achieve this through exploration, clarification, practice and application built over time across the whole school.

Read on to find out what maths looks like here in Great Crosby.

Maths in Early Years at Great Crosby

Research shows toddlers engage spontaneously with maths during nearly half the time available for free play. Children are encouraged from an early age to develop a positive attitude to maths and not be afraid to make a mistake.

Children need our help to explore, experiment and discover. Repeating maths activities will develop their understanding of mathematical concepts. Children will begin to understand regular daily routines, like snack time and going-home time, and how to use numbers to describe things.

Staff in Great Crosby encourage children to use numbers 'in context', using numbers in practice, not just in theory. This deepens their understanding. Children can then apply their knowledge and experiment. They can test their new understanding of maths by using numbers in context through the day in real-life situations.

Our children develop their own working theories by using numbers in everyday contexts. They learn to communicate these to others and over time remember mathematical concepts.

Maths is used for counting and quantities, but children need to develop the other ways numbers are used. For example, for measurements, putting things in order and understanding values.

Our staff will always look for meaningful maths opportunities to aid learning and progress over time, seizing opportunities to use maths content in all the other areas of learning.

In Nursery, pupils will look at the numbers 0-5 in great detail. They will use various representations and be immersed in the number for a length of time.

In Reception, pupils follow the NCETM's Mastering Number Program. This is aimed at strengthening the understanding of number, and fluency with number facts, among children in the first three years of mainstream school.

As their continuous provision, Reception staff use a mixture of White Rose objectives and Master the Curriculum to personalise our mastery maths curriculum for the needs of our children. In the Summer Term, this curriculum will be combined with the help and support of Specialist Tara Loughlin - and other complementary resources to embed the idea of maths in the 'wider world' and to be ready for the transition into Year 1.

Correct vocabulary and reasoning sentences are modelled consistently by all staff.

Maths in KS1 at Great Crosby

In KS1, pupils continue to follow the NCETM's Mastering Number Program. This is aimed at strengthening the understanding of number, and fluency with number facts, among children in the first three years of mainstream school. This is taught to all pupils, regardless of ability, 4 times a week.

In addition to this, KS1 follow our personalised maths curriculum. After working with our in-house NCETM primary maths specialists and Tara Loughran, we have developed a whole school, long term overview to allow teaching for Mastery across the school, ensuring progression and coherence. The lessons follow a CPA approach – that is, beginning with a concrete, hands on approach to teaching... followed by pictorial representations... finishing with the abstract implementation of skills learned. All classrooms have access to concrete resources. The same pictorial representations are used from Reception all the way up to Year 6, so children become very familiar with them.

Children are encouraged to recognise that making mistakes and 'getting thing wrong' is part of the working of mathematics. Lessons are designed to identify new maths that is to be taught, key points and a carefully sequenced journey for each pupil.

Maths in KS2 at Great Crosby

In KS2, pupils continue to follow our bespoke curriculum for their daily maths lesson. This curriculum has been designed with maths specialist Tara Loughran. A variety of resources are used to help develop the pupils' reasoning and fluency skills.

In Year 4, children will sit the Multiplication Timestables Check. In preparation for this, children will use the Timestables Rockstars app at home and in school. Tables will be taught in line with the curriculum and tested regularly.

Why Tara Loughran?

Tara Loughran has extensive experience in schools for leading improvement and change in mathematics. She has worked alongside head teachers and LA colleagues to put in place pragmatic plans based on qualitative and quantitative analysis of data. She has recently worked as the Senior Adviser for Primary Mathematics in the North of England for the National Strategies and prior to this as a Senior LA numeracy consultant. Tara has supported the writing of quality documents including 'Overcoming Barriers to Learning, and CPD training materials for all schools nationally. She has taught all ages from 4 to 11 including supporting more able children at KS2. She has also worked as a National Whiteboard Director, supporting the teaching of all aspects of the curriculum through the medium of ICT. Tara has successfully delivered many training events and workshops throughout the country to large audiences. She has successfully completed the NPQH programme and is a qualified Ofsted inspector

At Great Crosby, since 2015 we have been using the principles of teaching for mastery, underpinned by its Five Big Ideas. We began working closely with Tara Loughran for specialist support and advice for staff. For the 2022/2023 academic year, we have created Long Term Overviews for each year group. These include ready to progress objectives and rapid retrieval practise built in for each term from EYFS to Year 6. We also recognise the importance of the development of precise, mathematical language.

We are mindful that the new scheme we have created and tailored for the needs of our pupils is adaptable and consistently being reviewed to meet the requirements of the National Curriculum and DfE. We use NCETM Professional Development materials as well as White Rose Maths resources to ensure we shape our schools' development of the curriculum to ensure that children are developing factual knowledge, such as multiplication tables and deep understanding of mathematical concepts.

When?

EYFS – Nursery – Am and Pm session of number, using songs, stories and videos to bring to life

EYFS – Reception – Daily Mastering Number using NCETM resources; continuous provision using several, high quality resources from NCETM professional development materials, 'Tara's Toolkit', Mastering the Curriculum and White Rose.

KS1 – Daily maths lessons (including 4 rules of number and recap of prior learning); 15 minutes Mastering Number intervention x4 days; Daily Challenge activities

KS2 - Daily maths lesson (including 4 rules of number and recap of prior learning); arithmetic lessons; focusing on reasoning. Boosters and interventions to support all abilities are carried out throughout the day.

Vocabulary

At Great Crosby, we understand the importance of using the correct, progressive mathematical language.

Staff model the use of 'stem sentences' daily in their lessons. The children are familiar with the 'I say..., you say..., we say...' style of teaching. Expressing mathematical ideas orally helps children to build communication skills. It can also form an important part of developing understanding of mathematical concepts and the ability to reason mathematically.

Teaching children specific mathematical vocabulary encourages precision, giving pupils at Great Crosby a door to the world of the mathematician.

Assessment

In KS2, maths is assessed termly using teacher assessment. This data is inputted into SIMS and a monitoring and review system is acted upon. From these results, the lowest 20% of each cohort are identified.

Year 4 are assessed on their timetables using a baseline in September. For this, Times Tables Rockstar game is used. 25 questions on all of the tables, 6 seconds per questions. These scores are monitored throughout the year, with teacher intervention when deemed necessary. The formal assessment takes place in June.

The teachers in Great Crosby enjoy teaching mathematics. They are supported by the Maths leads and each other to explore new ways of engaging the pupils and keeping the maths alive. They understand the importance of a sequenced curriculum, and because of this, the pupils in our school make good progress in maths. Children enjoy their maths lessons and are beginning to refer to how we use maths in the wider world. These connections will be modelled, reinforced and imbedded as we move through the next school year.

In addition to this,

- Pupils will be equipped with the mathematical reasoning and understanding skills that will enable them to progress to and access the curriculum in the next key stage.
- The % of pupils meeting age related expectations within each year group will be at least in line with national averages.
- The % of pupils working at greater depth within each year group will be at least in line with national averages.
- There will be no significant gaps in the progress of different groups of pupils (e.g. disadvantaged vs non-disadvantaged).
- Targeted interventions will positively impact on pupils' progress, narrowing the gap.
- Pupils of all abilities will be able to succeed in all Mathematic lessons because work will be appropriately modelled and supported.
- Children will be independent learners, able to access the next stage of their education.
- Children will be secure with their understanding of the four rules of number
- Children will have a secure understanding and quick recall of the times tables
- Parents and carers will have a good understanding of how they can support maths at home.