

Lancasterian Primary School

Maths Policy



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At Lancasterian we aim to create confident mathematicians who gain a deeper understanding of mathematical concepts and procedures. We do this through teaching the following themes taken from the National Curriculum:

- **Fluency** - This enables the children to become fluent in number in order to be able to use skills and knowledge efficiently and with a deep understanding of the fundamental concepts of mathematics
- **Reasoning** - This includes following a line of enquiry, identifying variations and relationships, making generalisations and developing a mathematical argument
- **Problem solving** - This includes giving the children opportunities to apply what they have learnt, where they need to break down problems into smaller steps and persevere in seeking solutions

The Mastery Curriculum

“Children’s chances of success are maximised if they develop deep and lasting understanding of mathematical procedures and concepts.” NCETM (The National Centre for Excellence in the Teaching of Mathematics)

We believe that our mastery curriculum is the most effective teaching style to ensure that all children progress together and acquire a solid understanding of the maths curriculum. This then enables them to move on to more advanced material.

We follow a curriculum coverage, which is recommended by the DfE to engage, challenge and support our children’s mathematical learning. Our main point of planning inspiration is White Rose Maths and the resources they provide to support teaching for mastery. Our curriculum design enables children to fully master an area of mathematical learning within one extended unit, rather than revisiting several times throughout the year.

The key principles of our mastery curriculum are as follows:

- **Fluency**
We believe that children must be fluent in their conceptual as well as procedural understanding of number. Our ‘Fluency Passport’ provides the children with age-appropriate fluency foci, which are taught half-termly. The fluency coverage map ensure that skills are built on appropriately throughout a child’s time at Lancasterian. Furthermore, regular counting is an important teaching tool in order to provide the children with a secure understanding of place value and number.
- **Concrete → Pictorial → Abstract**

This means that children are exposed to new ideas at a *concrete* level using a range of equipment such as Dienes' blocks, cubes, Numicon, place value counters etc. before moving on to *pictorial* representations. This may mean diagrams, sketches or the Singapore bar model. This allows the children to develop deep understanding before moving on to the *abstract* representation, which is the written calculation.

- **Context**

As far as possible, we aim to give maths questions a context or put into 'real life' situations so children have lots of opportunities to apply their learning.

- **Mastering Number**

Mastering Number is a maths programme designed to strengthen children's understanding of number, fluency, and confidence in using mathematical concepts. It focuses on developing strong number sense through practical activities, discussion, and the use of visual resources. The programme is taught consistently from Reception to Year 6, with sessions taking place four times a week. Importantly, it is taught in a separate slot from daily maths lessons, ensuring that children have dedicated time to focus on core number skills without the pressure of wider curriculum objectives. This separation allows pupils to build strong foundations that support and enhance their progress in all areas of mathematics.

- **The Lancs Way**

The Lancs Way is an adaptive teaching approach based on **Rosenshine's Principles** and supported by **Walkthrus**, various teaching strategies used to check pupils' understanding. Teachers plan using 'The Lancs Way' elements which helps to structure the lessons. This starts with sharing of the learning objective followed by the Walkthru, *Quizzing*, which recaps on previous learning. If misconceptions arise, they can be unpicked here before starting the new learning. This is then followed by Key Vocabulary using the **Word Aware** scheme, ensuring children have a sound understanding of language they will be exposed to throughout each unit. The new material is then taught in small steps in a 'chunking' method using various Walkthrus like *Cold Calling* or *Show Me Boards* that check children understand each step before moving on. This will also include examples that support the new learning. Following this, children are given opportunities to put their learning into practice using teacher modelling (I do, we do) before children attempt to solve problems independently (you do). For the higher attaining children, who are working at the Greater Depth level, the Extension challenge is offered.

- **Progress Conferencing (Daily teacher-led intervention)**

During or after each lesson, teachers assess the children's independent work and decide if they need a Progress Conference to deal with a misconception or to extend their thinking. Children can also request a progress conference when they have marked their own work.

Planning

Teachers from Reception to Year 6 use the White Rose Maths documents as a basis for their medium term and daily planning, however, the needs of the children are first and foremost, so flexibility is key. We also make regular use of the Pupil Assessment Grids (PAGs) to inform planning. Our daily lesson structure follows The Lancs Way, as already explained. Within this, we will expect to see a variety of learning activities. Including:

- Daily counting
- Flashback Four (four questions linked to previous learning)
- Fluency teaching and practice

- A lesson hook (question, statement or context to 'hook' the children's interest)
- Opportunities for paired/group/class discussion
- Careful consideration of what models and images will be most suitable to encourage deep understanding
- Opportunities for regular verbal and written reasoning
- Investigative approaches to allow children to apply their skills and knowledge as much as possible
- Explicit teaching of mental maths strategies
- Assessment for Learning opportunities
- Weekly opportunities to attempt the Times Table Challenge (KS2) and the Number Bond Challenge (KS1)

EYFS

In the Early Years, our aim is to ensure that all children develop firm mathematical foundations in a way that is engaging, and appropriate for their age. Maths is an integral part of the provision in EYFS, with skilled practitioners developing early maths skills through routines and organisation of the environment, as well as stories, rhymes and songs. Additionally, in reception we use the White Rose Maths programme to support with the planning of engaging and aspirational learning activities specifically in relation to space and measure. The rest of the curriculum is taught using the Mastering Number programme described above. Parents are involved in their child's mathematical development and we regularly share current learning through Tapestry.

Support and Challenge

Meaningful scaffolding is vital in ensuring that each child can fully access the learning in every part of the lesson. A range of equipment is available for all children to use to scaffold their learning, if needed. However, scaffolding for lower attaining children, should not be limited to simply using equipment. We want our children to feel confident enough to challenge themselves within the pictorial and abstract areas of their learning.

Challenge for higher attaining children is provided by Extension activities, which aim to provide children with the opportunity to deepen their understanding of concepts, rather than moving on to the next step too quickly. Also, we encourage the children to follow their own lines of inquiry and 'delve deeper' into their learning.

Homework

In line with the school Homework Policy, children should receive maths homework once per week which related to their number fluency focus. Two effective online websites which are provided are Times Tables Rock Stars and Numbots. These are engaging game-style activities, which support the rapid recall of times table and number bonds. In addition to this, Year 6 pupils receive arithmetic and reasoning style questions to support them in preparation for the SATs tests.

Pupil recording

We create work to be proud of. Lessons should be recorded in books 4-5 times a week; however, this will not always be handwritten. A key feature of teaching for mastery in maths is the use of high-quality workbooks for the children to use. With this in mind, KS2 use the White Rose Maths workbooks when working independently. They also have an additional maths book for other mathematical notations during maths lesson. Expectations for recording in books include:

- Age-appropriate presentation, e.g. 1 number in 1 square; blank books
- Use of pencil only in Maths books, apart from green pen when self or peer assessing

- Short date underlined for each piece of work
- Photos recording practical work (where appropriate)
- Photocopies of work completed on whiteboards (where appropriate)
- Evidence of different opportunities of different methods of recording
- Evidence of the modelling stage of the lesson- I do, we do
- Independent work completed in workbooks (KS2)
- Extension challenges
- High expectations of neatness

Assessment

We follow the school Assessment Policy, along with the following:

Formative assessment

- Verbal feedback and self and peer-assessment are the most valuable sources of formative assessment. (See Feedback and Marking Policy for more information).
- Teacher assessment is mainly informed by daily progress conferencing and Pupil Assessment Grids (PAGs); teachers update the PAGs as they teach each unit of maths, using them to identify gaps.

Summative assessment

- We also complete termly tests which are used to support teacher assessment and allow for staff to carry out gap analysis. White Rose tests assess the content that has been taught throughout the year so far.

Appendix

Calculation policies (KS1, LKS2 and UKS2)