



Manchester
Communication
Primary
Academy

Manchester Communication Primary Academy

MATHS

Policy

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Aims

The teaching of mathematics at MCPA aims to ensure that children develop an excellent level of mathematical reasoning and understanding which enables them to apply maths in a wide range of contexts.

Rationale

We believe that whilst it is important to learn number facts and times tables, mathematics teaching has focussed on this for too long, with children not always being able to apply and manipulate what they have rote-learned. As such, we use the 'Maths No Problem' scheme of work across KS1 and KS2. This scheme provides lessons, textbooks (DFE approved) and workbooks for all children and is firmly based on the mastery approach to maths.

Maths – No Problem! is a comprehensive series that adopts a spiral design with carefully built-up mathematical concepts and processes adapted from the maths mastery approaches used in Singapore. The Concrete-Pictorial-Abstract (C-P-A) approach forms an integral part of the learning process through the materials developed for this series.

Maths – No Problem! incorporates the use of concrete aids and manipulatives, problem-solving and group work.

All elements of maths are taught through the Concrete – Pictorial – Abstract progression through which children can explore maths with manipulatives such as denes rods, then apply that maths to images, before answering number-based questions.

Children are taught through whole-class interactive teaching, where the focus is on all children working together on the same lesson content at the same time, although some are supported to do this.

This approach ensures that all can master concepts before moving to the next step, allowing no child to be left behind. Our children are expected to reason and clearly explain their thinking. We firmly believe that the answer is 'only the beginning' and our children need to try to explain why an answer is correct or not.

Children who are identified from the lesson as needing additional support will have same-day intervention to ensure that all children are at the same starting point for the next lesson.

Lessons design identifies the carefully sequenced journey through the concept, identifying difficult points and possible misconceptions. Children are challenged through careful questioning and supported through use of concrete materials and visual representations to develop deep, conceptual understanding. Maths No Problem resources are used to support the teacher with this.

Significant time is spent developing deep knowledge of key ideas that are needed to underpin future learning. The structure and connections within the mathematics are emphasised, so that children develop deep learning that can be sustained.

Curriculum Design

The maths no problem curriculum is planned in blocked units (chapters), this means that a class may cover a chapter on shape for several weeks, enabling much deeper understanding than previously achieved. The class will then move onto another chapter, re-visiting the topic in depth later in the year or the year after.

In order to ensure that this model doesn't lead to deep learning followed by a long period without re-visiting (which may result in a loss of understanding), the MCPA timetable is arranged so that all classes have a pre-maths session 4 days per week.

This session lasts 20 minutes in KS1 and 35 minutes in KS2 and is aimed at re-capping content, preteaching or reviewing concepts from upcoming lessons and embedding mental/oral maths such as number facts and times-tables.

A weekly focus is set for the pre-sessions in order to ensure sufficient recap of key concepts, learning of number facts such as times tables and providing opportunity for the staff to address misconceptions identified from previous lessons. It is not designed to be an extension of the maths lesson.

The maths pre-session is designed to be a high-paced and active learning session which enthuses children in addition to achieving the objectives outlined above.

Following the pre-maths session, all children have a 1 hour session of Maths No Problem, following the planned scheme and content. Within the overall plan, embed and review lessons are scheduled, this ensures that staff have sufficient time to cover the whole curriculum in depth, responding to the assessment.

In the Y1 curriculum one third of the lessons are allocated to embedding, revision and consolidation. This enables the staff in Y1 to respond to assessment and ensure that the principles of number are constantly re-visited ensuring that children are number-fluent.

As children in MCPA move to new year groups at the end of June, a 4 week bridging curriculum is delivered at the end of Reception/start of Y1 to ensure that children are all numberfluent, can meet the non-negotiables and are ready to start Maths No Problem.

Pre and Post Assessment

Each chapter of the MNP textbook contains a 'review' which assesses all of the mathematics taught throughout the chapter. In order to ensure that teaching and learning is targeted at the needs of children, the 'review' test is given at the start of the chapter, with the results used to inform teaching. The review is then given again at the end of the chapter. There is little risk of children remembering the answers to the review as they are not told the answers for the pre-assessment and the average chapter lasts 4 weeks.

In addition to the daily boosters delivered; support and extra sessions are targeted based on the above assessment to ensure that all children are appropriately challenged.

Textbooks, Workbooks, and Journals

All children have access to a textbook, workbook and maths journal.

The workbook is matched to the textbook with pre-printed exercises. There are times when staff will choose not to access these activities and use an alternative approach, this is not only permitted by this policy, it is encouraged, staff should feel empowered to use their judgement whilst following the schemes of learning.

The maths journal is the child's exercise book, this is where they record all other work and notes. In the back of the journal are the assessment criteria which the teacher will use in order

EYFS

Training is provided for EYFS teachers in the mastery approach to maths, this team includes a teacher who taught Y1 Maths No Problem in 2016-17 who can also share expertise. Over 2017-18 we will continue to develop how the reception maths curriculum leads into MNP, ensuring that children not only achieve/exceed the GLD, but also are well prepared to start the MNP approach. This will include implementation of the concrete-abstract-pictorial approach, familiarisation with the formats of resources and teaching approaches.

Calculation

Calculations used in Maths No Problem can be seen in video format on their website or through: <http://www.mcpacademy.co.uk/maths>

Lesson Planning

On the teacher-hub section of the Maths No Problem website, staff can access curriculum overviews, schemes of work and individual lesson plans.

Each lesson plan details assessment, the non-negotiables for the lesson, anticipated misconceptions and differentiation. It is expected that staff adapt these plans to suit their class.