



# Mathematical Strategies and Processes

*Reviewed 9<sup>th</sup> February 2023 – Gareth Williams and Jenny Williman*

## 1) Four-a-day:

Given the high-importance of retrieval practice as a means to learning (& remembering) we use **4-a-day Maths** at Milton Road Primary School. Four mathematical questions, are given which are designed to revisit the children's previous learning, therefore the content should not be unfamiliar to them. Some questions are repeated, with variation, over time to help build the children's familiarity, confidence and aid their memory. The answers the children give can then inform teacher's formative assessment and aid planning for learning.

All classes are expected to complete 4-a-day either in the morning, as the children first come into school, as part of their SOMA (Start of Day Activity) or straight after lunch as part of their AFLA activity (After Lunch Activity). This provides a few minutes to go over a few misconceptions from that morning's maths lesson, with the children that require it.

You can find this resource under:

*Whole School Planning – Maths – Four a day – Year ...*

## 2) Marking

When marking, we use the **Whole class feedback** sheets. These are kept in a blue folder, which every class should have. Please speak to Mr Williams or Mrs Williman if you do not have one. These are an effective way of noting down which children have any misconceptions, incomplete work, or fantastic work. It is a way of answering the question, through our marking, 'how we know how a child has got on in a lesson'; hopefully in a quick and efficient way. This provides good evidence for our 'deep dive' understanding of what is happening in Maths and where the gaps are for children. The same sheet can then be updated over a week or a unit of work, and should simplify the marking in our books themselves. Teachers are expected to use these regularly as part of the marking process.

## 3) Quick Mathematical Recall

With the high-correlation between the confidence in a child's understanding of number and their overall mathematical achievement/ability to learn, we use TimesTables Rockstars and Numbots to improve the children's confidence and recall in number. Both are great for children to use in and out of school to increase their self-assurance with basic number.

[Numbots Game](#)

[Times Tables Rock Stars \(ttrockstars.com\)](http://ttrockstars.com)

#### **4) Whole School Planning Resources and Extension**

There are a whole range of resources for teachers to supplement their lessons and provide further vital opportunities for Problem Solving and Reasoning. **ISeeReasoning** is a great resource to go for reasoning problems.

You will find the relevant years content under:

*Whole School Planning – Maths – ISeeReasoning*

While we use:

[NRICH - Mathematics Resources for Teachers, Parents and Students to Enrich Learning \(maths.org\)](http://nrich.maths.org) as a great site for investigation ideas.

#### **5) Mathematical Display and Learning Walls**

At Milton Road we ensure our Mathematical environments are focussed and beneficial to the children. This includes working walls being kept up to date. Working walls, number lines and vocabulary will be seen and clearly displayed in every class.

#### **6) Teaching to Mastery and Greater Depth**

We use NCETM materials for the purpose of teacher a mathematical unit to mastery and then extending our greater depth mathematicians. The materials include a range of questions that will really extend the thinking on a mathematical topic: whether that is providing opportunities for a variety of approaches; different outcomes or a child having to explain their reasoning on a problem.

These questions can very quickly be snapped tooled into a flipchart and provide a quick and simple way to provide opportunities for the class to teach mastery and move our greater depth children on to an even deeper understanding.

#### **7) Homework – CENTURY**

We use CENTURY for all KS2 pupils to provide homework – this is another form of retrieval practice and allows us to reinforce teaching from recent lessons and build the confidence and closing misconceptions on a topic. This eliminates the need for teachers to set homework, however, the expectation is that teachers will follow up with parents if their child is not engaging or using Century on a regular basis.