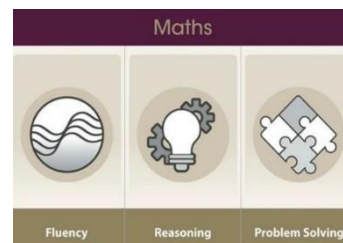




# Newtown Primary

## Maths Strategy



At Newtown, we believe that all children can achieve and flourish in Mathematics. The teaching of Mathematics embraces our vision of 'Achieving and Flourishing'. We strive for children not just to become mathematically adept, but to have a real enjoyment of solving problems and to relish the opportunity to think deeply and embrace challenge in their maths learning.

Learners will master small steps in an order that enables them to grow into competent mathematicians. They will understand the importance, relevance and wonderful influence that maths has in our world on a daily basis and apply their knowledge in sophisticated and contextual problems.

Therefore, at Newtown, we support our learners to become fluent mathematicians that are **resourceful, resilient** and **self-aware**. They are supported to **articulate their thinking** and **make links** to develop their reasoning and problem-solving skills throughout **every lesson**, working **collaboratively**, to **deepen** their understanding and prepare them for **independent challenge**.

Using White Rose as the spine of our mathematics planning, we have 4 main aims for mathematics at Newtown:

- 1) To ensure mathematics in EYFS and KS1 lays the early foundations that develop curious learners that enjoy Maths and have secure understanding of key objectives.
- 2) To provide a consistent and adaptive mastery approach that benefits all pupils and develops our pupils' fluency, reasoning and problem solving.
- 3) To ensure pupils build upon prior knowledge, using White Rose small steps as a spine, ensuring coverage and sequential planning moving through the **Know, Show, Grow** taxonomy.
- 4) To use formative and summative assessment to ensure ALL pupils make good progress in mathematics, adapting provision to meet pupils' needs.

### **1. To ensure mathematics in EYFS and KS1 lays the early foundations that develop curious learners that enjoy Maths and have secure understanding of key objectives.**

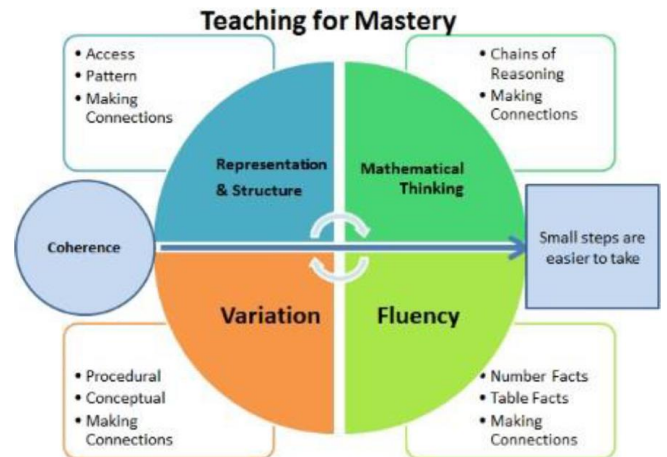
At Newtown, we understand the importance of a solid foundation in mathematical teaching, which will provide the basis for future mathematical confidence and success. In EYFS and Year 1, children will be mainly taught in small adult led groups. Learning will focus on developing counting skills and using understanding numbers up to 10. Children will also have access to mathematical learning through continuous provision in a rich and engaging environment. Interventions are put into place to ensure children keep up. Parents are kept informed via a newsletter and class Dojo, to enable them to engage and support their child's mathematical learning.

All children in EYFS, Year 1 and Year 2 take part in the Mastering Number Project facilitated by the NCETM. This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

**2. To provide a consistent and adaptive mastery approach that benefits all pupils and develops our pupils' fluency, reasoning and problem solving.**

Pupils learn through a mastery approach: Instead of learning mathematical procedures by rote, pupils are taught to build a deep conceptual understanding of concepts that will enable them to apply their learning in different situations.

Teachers plan lessons based around a problem and through questioning for all, 'dig down' into the structure of the mathematical concept they are teaching. They use variation to move the children's learning on and encourage them to understand different methods and representations. Success criteria is created so children have a scaffold to support them to be independent. Children are then 'peeled off' to work independently of the teacher on independent problems.



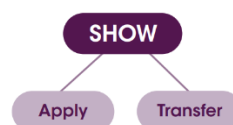
Pupils learn collaboratively through the use of talk partners and whole class discussion. They use shared concrete resources and mathematical models to develop their understanding. They speak in full sentences, at times using STEM sentences to support them. Learning walls and maths areas support children to revisit. They engage in systematic and intelligent practice to embed learning and take time to reflect on their learning and what has helped them.

**3. To ensure pupils build upon prior knowledge, using White Rose small steps as a spine, ensuring coverage and sequential planning moving through the Know, Show, Grow taxonomy.**

The White Rose Maths scheme has been adopted to ensure staff are supported in planning units of work that build upon prior knowledge; provide opportunities for fluency, reasoning and problem solving; support staff subject knowledge and approach to teaching mathematics. Our small step approach is designed to ensure that students will revisit taught mathematical concepts in different units of work throughout the year and as they progress within the school. Links and opportunities for mathematics in Learning Enquiries will be made where appropriate. Children will have regular maths homework to support learning in class (fortnightly in KS1 and weekly in KS2).

Throughout Key Stage 1 and 2, children learn during a 15 minute fluency session. In Key Stage 1, this is the Mastering Number Program. Year 3 are embedding their key skill understanding by covering Mastering Number for Year 2. Year 4 focus on the structure and understanding of multiplication and division and practice their table facts using Timetable Rock Stars online. These online platforms are used throughout the school. In Years 5 and 6, children alternate between a practice session and a 'flexible thinking' session which supports efficient methods.

Lessons demonstrate a **Know, Show, Grow approach**. Prior learning is revisited (what do I **know**), acquisition of new knowledge is gained and children **show** their learning in different ways, transferring their understanding to be able to solve new problems. Throughout lessons, children **grow** their understanding by justifying, proving and analysing. During Mathematical Learning Enquiries, pupils are given opportunity to tackle larger problems that allow them to deepen the understanding they have learnt across the unit.



**4. To use formative and summative assessment to ensure ALL pupils make good progress in mathematics, adapting provision to meet pupils' needs.**

Teachers check prior learning using White Rose End of Unit Test B for the previous year's block. They use this to plan lessons and cover gaps in pupil's learning and misconceptions. During lessons, teachers use assessment for learning to support and challenge as well as adapt their teaching. Pupils that are struggling to understand a concept, 'stay longer' with the teacher to support them further before they move to independence. Teachers also target pupils in groups to pre-teach, move children on within a lesson or post-teach.

Pupils are encouraged to reflect in purple pen throughout and after lessons. Teachers use an E, P or M during 'in the moment' marking to focus children's reflections.

**E**xplain

**P**rove

**M**ethod

Children might **explain** their mistakes or thinking, **prove** their understanding through drawings or calculations, and **explain** their **methods**, trying to think about the most efficient. Children have regular opportunities for self-assessment and are encouraged to reflect on and correct incorrect answers.

At the end of the block, teachers use End of Unit Test A to assess individuals' learning. They also use half termly PUMA assessments, regular times table assessment and tracking through Times Table Rock Stars. Pupil progress is tracked through the use of Insight, pupil progress meetings and monitoring from senior leadership as well as teacher support through collaboration in Professional Development meetings, joint planning, observations and feedback.

Identify – Use of assessment	React
<p><b><u>Formative Assessment</u></b></p> <ul style="list-style-type: none"> <li>- Assessment during whole class teaching</li> <li>- Assessment of work in books</li> <li>- Reasoning and understanding</li> <li>- Use of Class Dojo in Early Years to record children's development</li> </ul> <p><b><u>Summative Assessment</u></b></p> <ul style="list-style-type: none"> <li>- End of unit assessments</li> <li>- Termly Rising Stars PUMA assessment (KS2)</li> <li>- Timestable assessment (Y4 Multiplication Check)</li> </ul>	<ul style="list-style-type: none"> <li>- Provide opportunities in the classroom for all groups of pupils to be challenged, resulting in good progress</li> <li>- Interventions put in place in EYFS to ensure a good level of early development</li> <li>- Targeted guided group work</li> <li>- Additional targeted group work, including pre and post teaching</li> <li>- Use of PUMA assessment analysis to identify to identify whole-class areas of need</li> </ul>

**We believe implementing the aims in this way will support our vision and develop children that are prepared for the next stage.**