

Leominster Primary School

The Intent, Implementation and Impact of our Mathematics Curriculum



We aim to provide a high-quality mathematics education with a mastery approach so that all children:

- become fluent in the fundamentals of mathematics;
- reason mathematically;
- can solve problems by applying their mathematics.



INTENT

By the end of Key Stage 1 pupils will:

- develop confidence and mental fluency with whole numbers, counting and place value
- use numerals, words and the four operations, with foundations based in practical resources
- recognise, describe, draw, compare and sort different shapes and use the related vocabulary
- use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money
- know the number bonds to 20 and be precise in using and understanding place value
- read and spell mathematical vocabulary at a level consistent with their reading and spelling knowledge

By the end of Lower Key Stage 2 pupils will:

- be increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value
- develop written and mental method of calculation accurately with increasingly large whole numbers and begin to choose the most appropriate and efficient method(s)
- develop their ability to solve a range of problems, including with simple fractions and decimal place value
- analyse shapes and their properties, and confidently describe the relationships between them
- use measuring instruments with accuracy and make connections between measure and number
- have memorised their multiplication tables up to and including the 12 multiplication table, showing increasing precision and fluency
- read and spell mathematical vocabulary correctly and confidently at a level consistent with their reading and spelling knowledge

By the end of Key Stage 2 pupils will:

- extend their understanding of the number system and place value to include larger integers
- be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages
- develop the connections made between multiplication and division with fractions, decimals, percentages and ratio
- develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation
- begin to use the language of algebra as a means for representing and solving a variety of problems
- have an increasing knowledge of geometry, measures and shape, consolidating knowledge developed in number
- read and spell mathematical vocabulary correctly and confidently at a level consistent with their reading and spelling knowledge



IMPLEMENTATION

What does our Maths curriculum look like?

We are developing a Mastery approach in Mathematics. Each year group has daily maths, either as a discrete lesson or as part of continuous provision.

EYFS

Mastering Number forms the basis of daily maths input, for 4 days each week, with the fifth day being given over to shape, space and measure (these objectives are taken from the EYFS framework). Following the input, continuous provision activities link to the objective. See below for more information on Mastering Number.

Years 1 to 6

The 'White Rose Schemes of Learning' provide the small steps planning we follow. Teachers plan and sequence small steps for the needs of their class, following assessment at the start of each unit and ongoing within and across the lesson sequence. Teachers plan lessons based on the yearly overviews and small steps with consolidation of previous objectives and progression through current year group objectives. Teaching is designed to build on content they have been taught and integrate new knowledge into larger concepts.

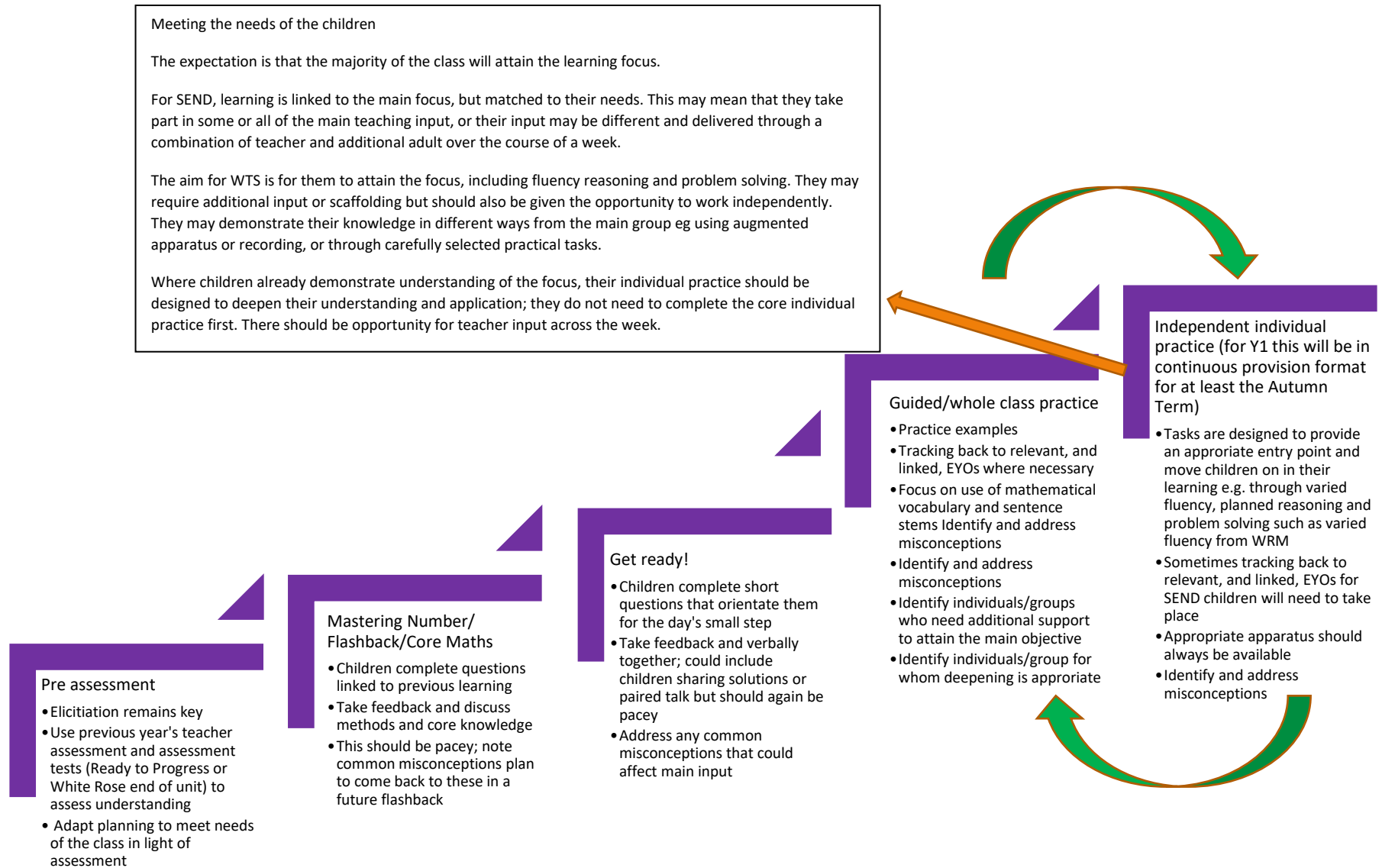
Within the small steps, there is a focus on the Ready to Progress Criteria objectives which have been identified by NCETM and DfE research; teachers prioritise these within their teaching as these are the basis for progression. Small steps teaching is supported by White Rose materials and selected resources from a range of sources including: NCETM, Nrich, Isee Reasoning, Grammarsaurus, which support the children in their understanding of the small step. The Mathematics leader is responsible for keeping abreast of developments in Mastery resources and theories. Teachers share good practice and knowledge of high-quality resources with each other and teachers in other settings. In Year 1 during the Autumn Term, independent practice takes place in a continuous provision format, with progression towards the full lesson structure during the Spring and Summer Terms.

Children with additional needs

- Questions and tasks are adapted for specific children; sometimes tracking back to relevant, and linked, EYOs will need to take place
- Teachers use concrete and pictorial models and images as visual resources, to illuminate meaning for all learners
- During whole class input, support/scaffolding is given to particular children wherever possible
- During activities, children are supported by teachers or teaching assistants where appropriate to the learning, but also given opportunities for independence
- Teachers respond to common misconceptions during class feedback, with additional scaffolding and input where required.

Teaching and Learning structure in Years 1-6

Lesson structure has been carefully designed to meet the needs of our children, moving them on in their learning. This approach has developed the subject knowledge of staff in all year groups. There is a particular focus on questioning, pupil engagement and use of misconceptions as a teaching tool.





Known facts (Declarative knowledge)

Mastering Number programme in EYFS, Year 1 and Year 2.

Each class has input 4 days per week using the Mastering Number programme which is designed to build the children's declarative knowledge. They are taught addition and subtraction facts and supported to make and use the relationships and links within addition and subtraction so that they develop the ability to rapidly recall their 'number bonds within first 10 and then 20'.

In Year 3 and 4 (and in Year 5 and 6 where individual needs require it):

Twice a week, children are taught multiplication facts and supported to make and use the relationships and links within multiplication so that they the ability to rapidly recall their multiplication facts.

Three times a week, children are tested on their times table knowledge in line with their current year group.

Foci for all year groups include:

- counting in multiples
- rolling tables
- practising times table facts at home and school

IMPACT

Our Mathematics curriculum facilitates sequential learning and long-term progression of knowledge and skills. Teaching and learning methods provide regular opportunities to recap acquired knowledge through questioning, discussion, modelling and explaining. This will enable the children to embed declarative, procedural and conditional knowledge in their long-term memory: they will know more, remember more and be able to do more as mathematicians.

This will enable all children to alter their long-term memory and know more, remember more and be able to do more as mathematicians.