



MATHS AT RYEFIELD



In class, the following approaches are used:

Concrete – children have the opportunity to use objects and manipulatives to help them understand and explain what they are doing.

Pictorial - children then build on the concrete approach by using pictorial representations, which can then be used to reason and solve problems.

Abstract – with the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.



FLUENCY

The use of Times Tables Rocks Stars and the school's own 144, 60 and 20 clubs facilitate and celebrate the instant recall of multiplication, corresponding division facts and associated number facts – such as the addition and subtraction pairs which are required to make 20.

Pupils are expected to apply their mathematical knowledge to science and other subjects.



CONTENT

Objects, pictures, words numbers and symbols are everywhere. At Ryefield we have adopted the mastery approach (based on the White Rose schemes) which incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding.

Together, these elements help cement knowledge so pupils understand what they have learnt. Pupils are provided with opportunities to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.



DEPTH

Pupils who grasp concepts rapidly are challenged through being offered rich and sophisticated problems rather than new content; this is in keeping with the Mastery approach to Maths.

A mathematical concept or skill has been *mastered* when a child can show it in multiple ways, using their mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.



EXPLICIT & DIRECT INSTRUCTION

All pupils, when introduced to a key new concept, should have the opportunity to build competency. Pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

The use of bar modelling is key and this is developed in Key Stage 1 and built upon in Key Stage 2.



RETRIEVAL PRACTICE

Regular warm-up sections in lessons allow for consolidation of prior learning.

The use of Times Tables Rock Stars and the school's own 144, 60 and 20 clubs facilitate and celebrate the instant recall of number facts.

Test analysis also provides opportunities for teachers to identify concepts which have yet to be fully embedded and these gaps will be addressed either in class, or via a small group intervention.



PROGRESS

Formative assessment takes place during the lesson and feedback and next steps are provided either verbally or via written comments. Furthermore, pupils complete a termly summative assessment to inform teacher judgement.

Through a combination of formative and summative assessment a holistic understanding of pupil achievement is formed. Gaps in learning, which may be potential barriers to progress, are identified at both a pupil and class level. This is discussed at pupil progress meetings and interventions are put in place to improve outcomes.



SUPPORT

Quality first teaching seeks to ensure that the pupils receive the support and guidance needed in class. A positive mind-set is encouraged as children can underperform in Maths because they think that they either 'can't do it', or are not naturally good at it.

Additional practice, including before and after school interventions, support pupils in consolidating their understanding and becoming sufficiently fluent in material previously covered in class. Online platforms such as MyMaths, TT Rock Stars and Third Space Learning provide further support.