



Mathematics subject intent:

- To become fluent in the fundamentals of mathematics.
- To reason mathematically.
- To solve problems by applying their mathematics to a variety of problems.
- To understand the importance of mathematics in everyday life.

How we support the needs of *our* children through teaching Maths:


- **Experiential learning** – Concepts are introduced through concrete objects, manipulatives or familiar experiences. This helps them to understand ideas before moving on to representing those concepts in pictorial form. Both concrete and pictorial understanding can then support children's ability to learn more abstract written calculation methods. Children are offered opportunities across the curriculum to apply their maths skills in other subjects (e.g. Science, DT) and in real life contexts.
- **Self-esteem** – The majority of children work together on tightly-focussed learning objectives, which incrementally build on learning. Children making the slowest progress will follow a more bespoke curriculum according to their needs. All children have the opportunity to develop fluency in number facts by working on their individual targets.
- **Resilience** - The curriculum is organised into blocks where one strand of mathematics is the focus over a number of weeks. Learning is built up through a series of small steps. This enables children to build resilience and fluency over the block and concepts can be more deeply explored. 'Marvellous mistakes' are shared together.
- **Knowledge of number facts** – Children receive daily fluency sessions outside of the daily maths lesson. Essential number facts, such as number bonds and times tables, are taught and practiced to enable children to become fluent. Fluency targets for each year group are specified on the calculation policy to support the development of these basic facts. Strategies for developing fluency are explicitly taught to help children move away from inefficient counting approaches.
- **Oracy skills** – Stem sentences are used to make connections, expose generalisations, aid recall and explain. Children are provided with topic-specific vocabulary to further scaffold their explanations.

How do we teach Mathematics at Nova Primary?

- The vast majority of children work together on the same, tightly-focussed curriculum objective
- Steps within a lesson are carefully planned to incrementally build up children's understanding with repeated images and stem sentences where appropriate.
- Teacher-led learning or invitation to discussion with time also given for children to talk as a class or in pairs and practise both in pairs or independently.
- Children and staff talk about their maths using clear vocabulary and in full sentences – vocabulary is visible in the lesson.
- 'Stem sentences' are used to expose mathematical generalisations and to aid recall and application.
- 'Marvellous mistakes' are happily shared and unpicked by children and staff as we all recognise that this strengthens everyone's conceptual understanding.
- A range of manipulatives (equipment such as Dienes, counters, tens frames and Numicon) and pictorial representations (such as the bar model) are used to support and deepen understanding of the key concepts for all children (not just for younger pupils or those who are struggling).
- 'Hinge questions' are carefully planned and are used to immediately assess the class's understanding at a certain point within the lesson.
- Children often mark their own work to provide immediate feedback that can be acted upon.
- Essential number facts such as number bonds and times tables are taught and practised regularly in fluency sessions **outside** of the daily maths lesson (daily) to enable children to become fluent. These targets are detailed for each year group on the calculation policy.

What can a visitor expect to see in Nova Primary Mathematics lessons? (Y2 –Y6)

The vast majority of children work together on the same, tightly-focussed curriculum objective

<p>Children may work on key fluency skills related to the lesson or be invited to think about or discuss a talking point with feedback time given</p>	<p>The teacher leads whole class teaching of a small step interspersed with opportunities to develop key skills e.g. whiteboard work, 'show me' using manipulatives, talk partners</p>	<p>A hinge question may be used as the teacher assesses learning so far. Children can be asked to work in their books on a short task reinforcing the learning up to this point. The teacher may work with a group to provide further explanation</p>
<p>The teacher continues to lead the lesson building on the first small step, unpicking misconceptions or reinforcing concepts with the whole class as needed</p> 	<p>Children work in their books on the varied fluency task and on reasoning/problem solving activities either independently or supported by an adult. There can be the opportunity to check answers via the answer wall. This enables further support to be directed at those learners who need it.</p>	<p>Answers may be discussed whole class with children self-marking in green pen. This is a further opportunity to identify the next steps for subsequent lessons. A further thinking point or problem may be discussed to reinforce the learning or to look ahead to the next lesson</p>

How we assess Mathematics at Nova Primary School

Every term	Teachers update the Fluency Tracker to highlight which number and times table facts children are fluent in (including division facts). Children will have a specific fluency target to focus on (written in their yellow fluency books); Times Table Rockstars usage will also reflect this target.
	At least every short term, teachers update Key Performance Indicators (KPIs) at the back of children's books, following independent tasks. White Rose end of block assessments or fluency gap-busting sessions can inform this.
Terms 1, 3 and 6	Teachers update SIMs marksheets with Point In Time Assessment (PITA) scores.
Terms 2, 4 and 6	Years 1, 3, 4, and 5 complete end of term White Rose summative assessments. Raw scores are recorded on SIMs marksheets.
	Children complete a learning review of 'Being a Mathematician' to review their learning and set their own targets for improvement.
Terms 2 and 4	Years 2 and 6 complete past SATs mathematics practice papers. Standardised scores are recorded on SIMs marksheets.
Term 5	Year 2 and 6 complete national SATs mathematics papers.
	Year 4 complete the online Multiplication Tables Check.
Ongoing	Children complete end of block White Rose assessments, following a completed block of learning. This can be used to update KPIs.
	Children have the opportunity to self-assess their work in daily mathematics lessons. They will also respond to teacher's marking in green pen.
	Teachers use the mathematics feedback code to provide children with next steps, when appropriate, and weekly star comments.
	Teachers will use formative assessment daily to provide immediate feedback and adapt planning. This can be through discussions, whiteboards or independent work.