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), real life contexts and investigations.
- **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 and to support their reasoning, using APE (Answer it, Prove it, Explain it) to stretch this.

How do we teach Mathematics at Nova Primary?

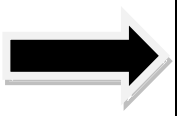
- Children complete Flashback 4 retrieval practice before beginning a new objective *(previous lesson, previous week, previous term, previous year),* or recap a specific skill from a previous lesson.
- The vast majority of children work together on the same, tightly-focussed curriculum objective.
- Steps 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 (APE) – 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.
- A range of additional, varied problem-solving questions are available; the class will unpick one of these together as a plenary.
- 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 fluency tracker.
- Once every two weeks, there is an opportunity for children to apply their skills (from their current block) in a longer problem-solving investigation; this is open-ended with many possibilities to uncover!

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

Y1 will build up from small groups to whole-class lessons, in preparation for Y2.

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

<table>
<tr><td>A fluency recap will begin the lesson (e.g. Flashback 4 or a specific skill).

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.</td><td>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.</td><td>A hinge question may be used as the teacher assesses learning so far. This can identify which skill children should practise (fluency or move on to reasoning and problem-solving). The teacher may work with a group to provide further explanation.</td></tr>
<tr><td>The teacher continues to lead the lesson building on the first small step, unpicking misconceptions or reinforcing concepts with the whole class as needed.
  </td><td>Children work in their books on the varied fluency task <u>or</u> 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.</td><td>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.</td></tr>
<tr><td colspan="3"><u>Early Years at Nova Primary</u>
We support children to develop a strong grounding in number so that all children develop the necessary building blocks to excel mathematically. Children are taught to count confidently, and supported to develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. At Nova, we provide frequent and varied opportunities to build and apply this understanding and relevant vocabulary - such as using a variety of manipulatives – through continuous provision. In addition, Nova provides rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, and talk to adults and peers about what they notice and not be afraid to make mistakes.</td></tr>
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How we assess Mathematics at Nova Primary School

Every term	Teachers update a 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); Teachers will monitor Times Table Rock Stars engagement to support 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.
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. These are used to inform future gap-busting sessions.
	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 and star comments, when appropriate.
	Teachers will use formative assessment daily to provide immediate feedback and adapt planning. This can be through discussions, whiteboards or targeted group work.