Nawton and Rosedale Abbey Federation
Curriculum Statement for Mathematics

Rationale:

The National Curriculum states: '*Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.*'

At Nawton and Rosedale Abbey, our teaching of mathematics encourages children to make rich connections between mathematical ideas and develop fluency, reasoning and problem solving. As mathematics is an interconnected subject, children are encouraged to move fluently between representations of mathematical ideas and apply this knowledge to other subjects.

Curriculum intent:

At Nawton and Rosedale Abbey, our intent for the mathematics curriculum is to ensure children become fluent in the fundamentals of mathematics to give children a secure foundation of knowledge to build upon. It is our belief that our pupils should **become fluent in the fundamentals of mathematics,** so that they:

- have a well-developed sense of number values
- know by heart key number facts, e.g. times-tables and related division facts, number bonds – in line with the latest programmes of study, in order to reduce cognitive load when applying facts to solve problems.
- apply knowledge of the above to work out connected facts
- **reason mathematically and** use mathematical language to explain and identify relationships and deepen their understanding of maths concepts,
- provide generalisations and proof of findings around their investigations
- are able to justify their thinking, e.g. as to why a particularly calculation strategy is the most efficient
- **solve increasingly complex problems by applying their understanding of mathematics,** encountering a variety of problems
- are able to select specific maths skills and/or operations
- persevere with a line of enquiry, breaking down increasingly complex problems into a series of smaller steps

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Curriculum implementation:

- At Nawton and Rosedale Abbey, mathematics is taught as a daily discrete core subject, including in EYFS.
- Maths topics are also revisited through other curriculum subjects including Science (for example looking at data analysis) throughout the academic year.
- Nursery: The development of self-regulation and metacognitive skills are linked to successful learning in early mathematics. Nursery and Reception mathematical learning will have an element of planned executive function activities to develop these skills.
- All children in nursery and reception will have a dedicated time to focus on mathematics each session they attend. They will explore maths through different contexts such as stories, puzzles, songs and rhymes, games etc. Maths will be embedded throughout the day through our provision and daily routines. Staff will regularly audit the mathematical environment, and adult interactions will seize the opportunity to reinforce mathematical language.
- Nursery objectives are taken from: Development Matters (3 to 4-year olds) and Birth to 5 Matters (3 and 4-year olds).
- In EYFS Reception, mathematics is taught as a discrete lesson using the NCETM Mastering Number planning and progression documents. This is supported by some additional White Rose Mathematics planning and resources for shape and space, measures and pattern and through continuous provision.
- In-keeping with NCETM principles, there are six key areas of early mathematics learning, which collectively provide a platform for everything children will encounter as they progress through their maths:
    - cardinality and counting
    - comparison
    - composition
    - shape and space
    - pattern
    - measures.
- In Key Stage 1, mathematics is taught based on the NCETM curriculum prioritisation map. Teachers use the NCETM Primary Mastery Professional Development materials and supporting resources (including Ready to Progress materials) which are adapted to meet the needs of our pupils.
- This resource provides coherent sequencing for the primary maths curriculum. It draws together the DfE guidance on curriculum prioritisation, with the high-quality professional development and classroom resources provided by the NCETM Primary Mastery PD materials. https://www.ncetm.org.uk/classroom-resources/cp-curriculum-prioritisation-in-primary-maths/
- Year 1 and Year 2 follow the single-age NCETM curriculum map.
- In Key Stage 1, five discrete sessions of approximately forty-five minutes are provided weekly.

- In Key Stage 2, mathematics is taught based on the NCETM **mixed-age** curriculum prioritisation map in a two-year cycle (Y3/4 and Y5/6).
    - In 2025-26, Years 3/4 will follow Year A of the planning documentation; Years 5/6 will follow Year B of the planning documentation.
    - The first full academic year of implementation is 2025-26. Teachers use the NCETM Primary Mastery Professional Development materials and supporting resources (including Ready to Progress materials) which are adapted to meet the needs of our pupils.
- In Key Stage Two, five discrete sessions of between forty-five minutes and one hour are provided weekly.
- Daily maths lessons include opportunities for fluency, reasoning and problem solving
- To ensure that children are exposed to a wide range of content, other resource hubs are used where appropriate, such as *NRICH problems* and *I See Reasoning* resources.
- New knowledge is taught using a concrete, pictorial and abstract approach in order to firmly lay the foundations for the children and allow them to confidently apply this knowledge throughout their learning journey.
- Behind all NCETM resources and teaching for mastery are Five Big Ideas which all staff understand and include in their maths planning and teaching.
    - Coherence
    - Representation and Structure
    - Mathematical Thinking
    - Fluency
    - Variation
- Staff refer to the NCETM guidance and planning when teaching mathematics; however, are also aware that children may also find their own efficient method of calculation throughout their mathematical journey.
- The school is currently engaging with the Yorkshire Riding Maths hub with the three-year Primary Developing Teaching for Mastery programme, entering the second year of this in 2025-26.
- In addition to our daily maths lessons, we have additional number work and fluency sessions to develop factual fluency.
- In KS1, pupils have a daily session following the Mastering Number KS1 programme which aims to equip KS1 teachers with the skills and knowledge to ensure that all children leave KS1 with strong, deep and flexible understanding of the number system.
- In KS2, we have previously (2024-25) followed a regular times tables focus session using the Claire Christie approach to learning times tables. There are 36 key facts to learn as shown in 'Mathematics guidance: key stages 1 and 2 Non-statutory guidance for the national curriculum in England'.

- The Clare Christie approach to teaching times tables facts, is outlined below.

  Learning multiplication tables facts:

  - Systematic, whole class approach to learning the times tables.
  - Aims to break down the learning of the times tables into manageable chunks learning a times table at a time
  - Importance of the commutative law and the relationship with division facts.
  - Rote learning in which children learn the number facts AND a sound pattern.
  - Little and often - a 2-minute times table test with 40 questions in each test.
  - Y3 pupils work on additive facts during autumn term before progressing to multiplicative facts during spring term.

- From Autumn 2025, pupils in Year 3 will be supported to secure and embed their additive and multiplicative facts based on the above approach.
- From Autumn 2025, we will be engaging with the NCETM's *Mastering Number in Key Stage 2* programme for pupils in Key Stage 2. This project enables pupils in Years 4 and 5 (and Year 6 during the first year of implementation) to develop fluency in multiplication and division facts, and a confidence and flexibility with number that exemplifies good number sense. This involves five short sessions a week, timetabled separately from main maths lessons.
- Summative assessment - children are assessed in mathematics during spring and summer terms using NFER Assessment materials. Additional assessment materials based on past-SATs papers are used to support SATs preparations in Upper Key Stage 2.
- Formative assessment is used throughout teaching of mathematics including well-structured classroom activities; regular opportunities for discussion of answers and strategies; interaction and dialogue (between teacher and pupils, and between pupil).
- Additional resources such as Ready to Progress materials and NCETM Primary Assessment Materials support assessment of pupils.

Curriculum impact:

At Nawton and Rosedale Abbey, the impact of the mathematics curriculum is monitored by use of daily observation of pupils' attainment in lesson, and formative assessment by teaching staff. On a daily basis, staff will identify children that require more support, or further challenge by use of assessment for learning in the classroom, pupil voice, and observing the learning carried out. Staff will identify any areas for development, and immediately act upon this, including revisiting learning, or targeting specific children for further support. To ensure that mathematical learning is interconnected and secure, children will also be assessed termly, through teacher assessment, and targeted actions will be created to ensure children are suitably supported and challenged where required.

As a result of our mathematics curriculum we will see:

- Children are happy learners who talk enthusiastically about their learning and eager to further their progress in maths
- Children who can show mathematical concepts in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.
- Accurate use of mathematical language during class/pupil discussions
- Children demonstrate quick recall of facts and procedures. This includes the automaticity of recall of the times tables.
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics.