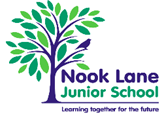
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**Curriculum: Maths**

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* **Vision**
* **Intent, Implementation & Impact**
* **Overview of learning.**

**2023-2024**

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| **Vision** | | | | | | | | | | | | | | | | | | | | | | | | |
| ***‘Maths, where the answer is only the beginning...’***  We love maths at Nook Lane Junior School! We encourage pupils to develop a positive attitude towards number enabling all children to approach the subject with confidence, understanding and pleasure. Using a mastery curriculum, following the NCETM in Y3 and Y4 and the White Rose Maths scheme In Y5 and Y6, it is our intention that children acquire the fundamentals through varied and fluent practice. This will enable them to recall and apply knowledge rapidly and accurately.  We inspire children to reason mathematically and to become critical thinkers by following a line of enquiry, building arguments and proving. We encourage pupils to solve problems, share their own ideas and to communicate in a variety of different ways. Children develop mathematical skill through a concrete - pictorial - abstract approach to maths so they have a deep understanding of what they are learning about.  Concrete: children are introduced to new learning through concrete apparatus such as counters, dienes, Numicon and Cuisenaire rods.  Pictorial: Children move onto pictorial models and images such as hundred squares, bar models and number lines.  Abstract: Once the children are secure in their understanding of a concept, they will begin to use more formal methods of recording a calculation e.g. formal addition, subtraction, multiplication and division.  We ensure that children recognise that maths is inter-connected so that they are able to move fluently between different representations of mathematical ideas in maths lessons and across the curriculum.  We aim to create vocabulary-rich environments where children are encouraged to justify and reason in full sentences and teachers remedy misconceptions where they arise. At Nook Lane Junior School, we are passionate about children becoming life-long mathematicians who are equipped with the knowledge needed to be successful citizens within their community, both as children and in the future as adults at work and at home. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Intent** | | | | | | | | | | | | | | | | | | | | | | | | |
| **At Nook Lane Junior School, we aspire to help children develop as mathematicians, building progressively each year on the following maths key intentions:** | | | | | | | | | | | | | | | | | | | | | | | | |
| **M1** | It is our intention that our curriculum is progressive and builds upon the skills that have been previously taught. Our children follow a mastery curriculum and will move through our curriculum at broadly the same pace and they will be challenged by solving deeper problems with an increasing number of steps. | | | | | | | | | | | | | | | | | | | | | | | |
| **M2** | Pupils at Nook Lane will develop a strong mathematical vocabulary in order for them to engage in rich mathematical discussion during lessons and are able to confidently understand and answer a range of questions because they have understood the terminology. | | | | | | | | | | | | | | | | | | | | | | | |
| **M3** | Our pupils will confidently move between different representations of mathematical ideas. They will have a deep understanding of number by using concrete resources before moving onto visual representation before accessing increasingly abstract problems. This approach is called CPA (concrete - pictorial-abstract). | | | | | | | | | | | | | | | | | | | | | | | |
| **M4** | Children at Nook Lane will be fluent in mathematics. By providing pupils with regular opportunities to practise and over-learn what they have been taught, they will apply knowledge rapidly and accurately to increasingly complex problems. | | | | | | | | | | | | | | | | | | | | | | | |
| **M5** | The vast majority of our pupils will be fluent in their times table knowledge by the end Y4. They will continue to practise times tables until the end of Y6 in order for them to be able to apply this knowledge quickly to a variety of arithmetic, reasoning and problem-solving work. | | | | | | | | | | | | | | | | | | | | | | | |
| **M6** | Our pupils will be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. | | | | | | | | | | | | | | | | | | | | | | | |
| **M7** | Nook Lane pupils will be able to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. | | | | | | | | | | | | | | | | | | | | | | | |
| **M8** | Our pupils will be able to apply their mathematical knowledge across the curriculum, for example in Science, DT and Computing. | | | | | | | | | | | | | | | | | | | | | | | |
| **Key Concepts** | Throughout their learning**,** children will develop an in-depth understanding of the following concepts that are continually returned to and discussed within each unit of learning so they can reason, solve problems and apply their maths across the curriculum:  **1. Place Value**  **2. Addition and subtraction**  **3. Multiplication and division**  **4. Decimals and fractions**  **5. Measurement**  **6. Shape and Space**  **7. Data Handling** | | | | | | | | | | | | | | | | | | | | | | | |
|  | **Our Maths key intentions and concepts are captured within our Maths Logo.** | | | | | | | | | | | | | | | | | | | | | | | |
| **Implementation** | | | | | | | | | | | | | | | | | | | | | | | | |
| * Nook Lane follows theNCETM prioritisation documents in Y3 and Y4 and the White Rose Maths mastery schemes of work in Y5 and Y6. We are rolling over to the NCETM one year group at a time. By the beginning of 2025, we expect the whole school to be following the NCETM materials. Teachers have been consulted and have agreed on the progression of learning. * Teachers have discussed the progression of calculation throughout school and have agreed upon a whole school calculation policy. This works alongside the White Rose maths concrete-pictorial- abstract guidance, which supports teachers to differentiate learning through resources and diagrams. * At Nook Lane, we recognise that all children should succeed in Maths and some children with SEND may need additional support. This support may be provided through tasks, resources or by an adult. We also recognise that a small proportion of pupils may need a more bespoke curriculum that focuses on fundamental skills. For these children we use the Birmingham Toolkit. * In order for pupils to become confident in the language of mathematics, vocabulary is shared at the beginning of each maths lesson and is continually referred to throughout the lesson. This vocabulary is also shared on each class’ working wall. Children are encouraged to answer in full sentences in lessons so children articulate and embed the whole process rather than just the answer. * When planning lessons, teachers provide a balance between varied fluency, reasoning and problem solving. Children are challenged by giving increasingly complex problems that involve several steps. * In order for our pupils to have opportunities to practise, over-learn and commit maths to long term memory, children take part in a fundamental revision session every week. Teachers select areas which they know their pupils need to practise and over-learn, particularly those linked to the DFE Ready to Progress criteria. These are also used for times table practice, particularly in Y3 and Y4. * The teaching and learning of times tables is paramount. Children in Y3 and Y4 practise these in weekly arithmetic sessions, at the start of lessons and through KIRFS (key instand recall facts) in Y4. TT Rockstars is used as a platform for helping pupils learn their times tables and prepare for the Multiplication Timestable Check. Children’s activity on TT Rockstars is also shared in assemblies. * Cross-curricular mathematical opportunities are developed across the curriculum. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Impact** | | | | | | | | | | | | | | | | | | | | | | | | |
| * Children at Nook Lane will have a high level of academic success. The vast majority of our pupils achieve national expectations and a significant proportion of our pupils exceed them. Relative to their starting points, our children make good progress. * Pupils have a deep understanding of the primary maths national curriculum as they have been taught lessons that are connected and build progressively from one year group to the next. They will be able to successfully reason and justify their answers and ideas. * Children leave Nook Lane as fluent mathematicians and are able to confidently apply their mathematical knowledge and understanding to a range of problems rapidly and accurately. They will have committed mathematical concepts and strategies to long term memory in order to aid recall. * The vast majority of children will have learnt all their times tables by the end of Y4 and will be able to use these to solve problems rapidly. * Children will be confident at using resources and drawings to explain their mathematical thinking, proving that they understand how an answer is derived. * Children can talk with confidence, using mathematical vocabulary, in order to justify and prove their methodology to themselves and others. * Learners recognise and enjoy using maths across the curriculum. | | | | | | | | | | | | | | | | | | | | | | | | |
| **Year 3 overview of learning (NCETM)** | | | | | | | | | | | | | | | | | | | | | | | | |
|  | **Week**  **1** | | **Week**  **2** | **Week**  **3** | | **Week**  **4** | | **Week**  **5** | | **Week**  **6** | | **Week**  **7** | **Week**  **8** | | **Week**  **9** | | **Week 10** | | | **Week**  **11** | | **Week**  **12+** | | |
| **Year 3**  **Autumn** | Initial assess-ments | | Adding and subtracting across 10 | | | Numbers to 1000 | | | | | | | | | | | | | | | | | | |
| **Year 3**  **Spring** | Right angles | | | Manipulating the additive relationship and securing mental calculation | | | | | | | | Column addition | | | | 2, 4 and 8 times table | | | | | | | | Column subtraction |
| **Year 3**  **Summer** | Unit Fractions | | | | | | | | | | Non-unit fractions | | | | | | Parallel and perpendicular lines in polygons | | | | | | | Time |
| **Year 4 overview of learning (NCETM)** | | | | | | | | | | | | | | | | | | | | | | | | |
|  | **Week**  **1** | | **Week**  **2** | **Week**  **3** | | **Week**  **4** | | | **Week**  **5** | **Week**  **6** | | **Week**  **7** | **Week**  **8** | | **Week**  **9** | | **Week 10** | | | **Week**  **11** | | **Week**  **12+** | | |
| **Year 4**  **Autumn** | Initial assessments | | Review of column addition and subtraction | | | | | | Numbers to 10,0000 | | | | | | | | Perimeter | | | | | 3, 6 and 9 times table | | |
| **Year 4**  **Spring** | 3, 6 and 9 times table | | | | | 7 times table and patterns | | | | Understanding and manipulating multiplicative relationships | | | | | | | | | Co-ordinates | | | | | |
| **Year 4**  **Summer** | Review of fractions | Fractions greater than 1 | | | | | | | | | | Symmetry in 2D shapes | | Time | | | Division with remainders | | | | | | | Consolidation |
| **Year 5 overview of learning** | | | | | | | | | | | | | | | | | | | | | | | | |
|  | **Week**  **1** | | **Week**  **2** | **Week**  **3** | | **Week**  **4** | | **Week**  **5** | | **Week**  **6** | | **Week**  **7** | **Week**  **8** | | **Week**  **9** | | **Week 10** | | | **Week**  **11** | | **Week**  **12+** | | |
| **Year 5**  **Autumn** | Initial assessments | | Place value | | | | | Addition and subtraction | | | | Multiplication and Division A | | | | | Fractions A | | | | | | | |
| **Year 5**  **Spring** | Multiplication and Division | | | | Fractions B | | | | | Decimals and Percentages | | | | | Perimeter and Area | | | | | Statistics | | | | |
| **Year 5**  **Summer** | Shape | | | | Position and Direction | | | | | Decimals | | | | | Negative Numbers | | | Converting Units | | | | Volume | | |
| **Year 6 overview of learning** | | | | | | | | | | | | | | | | | | | | | | | | |
|  | **Week**  **1** | | **Week**  **2** | **Week**  **3** | | **Week**  **4** | | | **Week**  **5** | **Week**  **6** | | **Week**  **7** | **Week**  **8** | | **Week**  **9** | | **Week 10** | | | **Week**  **11** | | **Week**  **12+** | | |
| **Year 6**  **Autumn** | Initial assessments | | Place value | | | Addition, subtraction, multiplication and division | | | | | | | | | Fractions | | | | | | | | Position and direction | |
| **Year 6**  **Spring** | Ratios | | | Algebra | | | | Decimals | | | | Fractions, Decimals and Percentages | | | Area, Perimeter and Volume | | | | | | Statistics | | | |
| **Year 6**  **Summer** | Shape | | | | | | Convert Units of measure | SATs practice and preparation | | | | | Themed projects and transition work | | | | | | | | | | | |