



Mathematics Policy

Hudson Road Primary School Curriculum Vision

At Hudson Road Primary School our core values underpin our culture and behaviours. We challenge minds, encouraging strength and resilience to ensure positive futures. By immersing children in an environment which celebrates hard work and achievements, children grow to be confident learners who are creative and flexible in their thinking. We want to inspire children to be curious and ambitious learners who thrive in a safe, inclusive and supportive environment.

Intent

At Hudson Road Primary School, we endeavor to ensure that all children develop a positive attitude and enthusiasm for mathematics that will stay with them throughout their lives and allow them to become life-long learners. We are committed to providing a curriculum that is accessible for all children so that everyone can experience success and sense of achievement regardless of individual starting points. The school's curriculum has been constructed to provide learners with the knowledge and skills that they will need in order to take advantage of opportunities, responsibilities and experiences in later life.

We want children to become fluent in the fundamentals of mathematics through developing a conceptual understanding leading to the ability to recall and apply knowledge rapidly and accurately to the different areas of mathematics.

Promoting a growth mindset amongst pupils is important as this encourages learners to embrace new challenges and become resilient problem solvers who persevere in seeking solutions. Approaching a problem with creativity and flexibility is celebrated, as we want all children to feel free to work in a way that they understand and feel confident in doing so.

Talking about their maths work is a key skill for all children and working collaboratively is a key feature of the daily maths lesson. Through the use of stem sentences, and a focus on key vocabulary, children are encouraged to communicate their ideas coherently and reason using accurate vocabulary. Children learn to develop arguments, justification or proof using mathematical language.

Implementation

At Hudson Road Primary School, mathematics is taught in a daily, dedicated session throughout the school from Nursery to Year 6. During these sessions, children are given opportunities to apply and use mathematics in real-life contexts whenever possible. The Mastery approach to the teaching and learning of mathematics has been adopted to ensure that children attain solid foundations in this subject. In order to help achieve this, the NCETM'S Curriculum Prioritisation materials are used as a curriculum design to

support teachers with their planning, delivery of lessons and assessment. The curriculum is designed and delivered in a way that allows pupils to transfer key knowledge to long-term memory. It is sequenced so that new knowledge and skills build on what has been taught before and pupils can work towards clearly defined end points. The NCETM materials are used as a guide and are regularly adapted throughout the year to meet the needs of particular cohorts. Prior assessment takes place before each unit is taught to determine whether a teacher needs to 'drop back' to the previous year group's objectives before introducing a new concept. Then, through the use of small steps, children spend a sufficient amount of time on each mathematical concept. They begin by using concrete resources before moving on to pictorial representations and then more abstract methods (CPA approach). This allows children to develop a deep mathematical understanding that they can then transfer to new learning as they progress through the curriculum. Children may return to concrete resources and pictorials at any stage in their learning. At the end of the unit, teachers use assessment to check pupils' understanding in order to inform teaching, and to help pupils embed and use knowledge fluently.

Reasoning and problem-solving opportunities are embedded into daily maths lessons. All children are expected to complete these tasks with the appropriate scaffolds put in place. Answering 'What if...?' questions and the use of 'dong nao jin' questions are just two ways in which children are challenged to use their problem-solving and reasoning skills within a lesson.

Regular opportunities are planned to use mathematical skills in other subject areas e.g. measuring in science or technology, using shape/ geometric properties in art and design or collecting and presenting data in history or geography.

In the EYFS and KS1 children are in mixed-ability groups. Across KS2, flexible groupings are used to allow teachers to meet the individual needs of children through the use of resources, adult support and the use of varying pace to adapt lessons. These groupings are flexible, and children are regularly moved between groups to allow for greater progress.

Memory Jogger

From Year 1 to Year 6, children complete a daily retrieval task called the 'Memory Jogger' which is separate to their daily maths dedicated session. Children are given 4 questions, and these are answered in their maths jotter. Each question is related to objectives the children have covered in their dedicated maths lessons from the previous day, week, unit and from the previous year. Through the use of the 'Memory Jogger', children are given the opportunity to retrieve previously learned information and this aids in reactivating information stored in long-term memory.

Daily Maths Meetings

Daily Maths Meetings (DMMs) are used to develop number and calculation fluency and automaticity. This session provides pupils with the opportunity to retrieve the information they have been taught and have rehearsed within the main maths lesson. This leads to children becoming proficient in core knowledge which can be recalled with speed and accuracy. This includes number facts, number bonds, multiplication facts as well as relationships and laws e.g. the commutative law.

From Year 1 to Year 6, Daily Maths Meetings take place on an afternoon and are separate to the main maths lesson. Reception's Daily Maths Meetings take place on a morning. These sessions are between 10 and 15 minutes long. The children in Reception and Key Stage 1 use the Mastering Number programme to secure firm foundations in the development of good number sense and strong basic skills for all children. In the fifth Daily Maths Meeting of the week, years 1 and 2 complete a basic skills session focussing on consolidating number facts. The Number Sense Times Tables Fluency Programme is used in years 3 and 4 to build fluency in multiplication and division facts, and understanding of multiplicative relationships. Years 5 and 6 focus on place value, fact recall and calculation to embed and apply learnt skills and known facts. The objectives of which are set out in the TfC CFC documentation and include some revision of previous year groups' content. They are reviewed and adapted by teachers to suit the needs of their children.

Mathematics in Early Years

Mathematics in EYFS aims to develop firm mathematical foundations in a way that is engaging and appropriate for the children's age. Learning focuses on the expectations of Development Matters and the Learning Trajectories. Through planned teaching and encouraging informal, incidental mathematics, teachers help children learn at an appropriate and deep level. Mathematical understanding is also developed through stories, songs, games and purposeful play-based experiences represented throughout the indoor and outdoor provision. As pupils progress, they will be encouraged to record their mathematical thinking in a more formal way at the discretion of the EYFS staff when they identify that children are ready.

Monitoring and Assessment of Mathematics

The teaching and learning of mathematics is monitored through:

- Lesson observations (formal and informal)
- Work scrutiny
- Scrutiny of planning
- Tracking and monitoring of pupil progress
- Pupil conferences
- Learning walks
- Informal 'drop-ins'

Impact

Children at Hudson Road Primary School display a positive attitude towards mathematics and view this as an exciting and enjoyable subject in which they can achieve. They are curious and resilient learners who understand the importance of making mistakes and how this can strengthen their learning through the journey of finding an answer. In all lessons, children are motivated to challenge themselves. They think creatively and flexibly when applying their knowledge and skills to increasingly complex problems.

Pupils will leave Hudson Road Primary School with:

- Confidence and belief that they can achieve
- The knowledge that maths is a vital life skill that underpins most of our daily lives

- Fluency in the fundamentals of mathematics with a conceptual understanding
- Automaticity of facts
- Flexibility and fluidity to move between different concepts and representations of mathematics
- The ability to recognise patterns, connections and relationships
- The skills used to break down a problem into small steps and identify the most efficient strategy to find the solution
- The ability to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

It is our hope that children leave Hudson Road Primary School feeling proud of their achievements in mathematics and acknowledge the mathematical journey they have been on to acquire their skills.