

Mathematics

Intent

At Inmans primary School we recognise that a high-quality Mathematics education provides a good foundation to everyday life. It is critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. Therefore a good foundation in Mathematics allows the child to have a better understanding of the world, the ability to reason mathematically and allows them to achieve a sense of enjoyment and curiosity about the subject.

Inmans curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can 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

Implementation

At Inmans we use the Maths No Problem (MNP) resources to support the teaching and learning of mathematics across the key stages. Best practice uses the Maths No Problem textbook as a starting point and enhancements for concrete and pictorial representations are essential to be certain of conceptual links. Alongside the MNP textbook and workbook the teacher needs to plan for the

- Precise questioning to test conceptual and procedural knowledge.
- How and when manipulatives will be used within each lesson to scaffold difficult tasks.
- Low stake quizzes to support learner's ability to block learning and increase space in their working memory.
- Tasks and challenge questions to challenge pupils to apply and deepen their learning and mathematical reasoning.

In addition to Maths No Problem in KS1 The Mastering Number Programme is taught, in short regular sessions to help support a smooth transition from EYFS to Year 1 and continues to build on fluency skills throughout KS1. The Mastering Number Programme is also taught in KS2, Year 4 and Year 5 to develop multiplicative thinking.

In the Early Years Foundation Stage (EYFS), we relate the mathematical aspects of the children's work to the Development Matters statements leading to the Early Learning Goals (ELG), as set out in the EYFS profile document. Mathematics development involves providing children with opportunities to practise and improve their skills in counting numbers, calculating simple addition and subtraction problems, and identifying patterns. The profile for Mathematics areas of learning are Number and Numerical Patterns. We continually observe and assess children against these areas using their age-related objectives, and plan the next steps in their mathematical development through a topic-based curriculum.

There are opportunities for children to encounter Maths throughout the EYFS continuous

provision (both inside and outside) – through both planned activities and the self-selection of easily accessible quality maths resources. Whenever possible children's interests are used to support delivering the mathematics curriculum.

Towards the end of Reception teachers aim to draw the elements of a daily mathematics lessons together and introduce elements of MNP so that by the time children move into Year 1 they are familiar with a structured lesson / activity.

Impact

Our mathematics curriculum is based upon 'Maths No Problem' resources which are fully supported by the Department for Education as they meet the requirements of the new curriculum. The Maths No Problem primary school series has been created specifically for children living in the UK and is fully aligned to the 2014 curriculum. It provides all the elements that teachers need to teach Maths mastery with confidence and encourage children to use maths language and concepts with confidence and in depth. To achieve this, children:

1. Study each concept in depth so there is sufficient time to comprehend one concept before the next one is introduced and
2. Sequence topics so, as much as possible the **mental distance between concepts is small** and the previously learned concept will help in learning each new one
3. By providing opportunities for
 - whole class work
 - group work
 - paired work
 - individual work
 - group/individual work with a teacher or teaching assistant

The Mastering Number Programme continues to build on fluency skills throughout KS1 and at KS2 develops multiplicative thinking.

We are constantly assessing our pupils and recording their progress, in line with the School's assessment policy. We strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the children and ensuring progress.

Information for assessment will be gathered in various ways; by talking to the children, observing their work, marking their work, SATs papers, NfER tests and assess and review lessons. These sources of evidence will enable teachers to complete ongoing Teacher Assessments, across different skills which are appropriate for either KS1 or KS2 and described in the National Curriculum 2014.